GenCore version 5.1.3

OM protein - protein search, using sw model

Run on: January 3, 2003, 22:48:05 ; Search time 21 Seconds
(without alignments)
815.435 Million cell updates/sec

Title: US-09-294-539-4
Perfect score: 2952
Sequence: 1 MEPPTSHVTNAFSDSDSASV.....RSGLSSSSSSTSIGAIRPRR 582

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 262574 seqs, 29422922 residues

Total number of hits satisfying chosen parameters: 262574

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Issued_Patents_AA:*
1: /cgn2_6/ptodata/2/iaa/5A_COMB.pep:*
2: /cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
3: /cgn2_6/ptodata/2/iaa/6A_COMB.pep:*
4: /cgn2_6/ptodata/2/iaa/6B_COMB.pep:*
5: /cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*
6: /cgn2_6/ptodata/2/iaa/backfiles1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	1276	43.2	593	2	US-08-989-478-2	Sequence 2, Appli
2	1276	43.2	593	3	US-08-996-685-2	Sequence 2, Appli
3	1276	43.2	593	3	US-08-880-179-3	Sequence 3, Appli
4	1270	43.0	593	2	US-08-989-478-8	Sequence 8, Appli
5	1270	43.0	593	3	US-08-996-685-8	Sequence 8, Appli
6	1188.5	40.3	521	2	US-08-989-478-12	Sequence 12, Appl
7	1188.5	40.3	521	3	US-08-996-685-12	Sequence 12, Appl
8	1134	38.4	469	2	US-08-989-478-10	Sequence 10, Appl
9	1134	38.4	469	3	US-08-996-685-10	Sequence 10, Appl
10	1052.5	35.7	397	2	US-08-989-478-14	Sequence 14, Appl
11	1052.5	35.7	397	3	US-08-996-685-14	Sequence 14, Appl
12	751	25.4	261	2	US-08-989-478-16	Sequence 16, Appl
13	751	25.4	261	3	US-08-996-685-16	Sequence 16, Appl
14	420	14.2	143	4	US-09-325-932A-197	Sequence 197, App
15	201	6.8	102	4	US-09-325-932A-199	Sequence 199, App
16	133	4.5	1088	4	US-09-082-059-2	Sequence 2, Appli
17	127	4.3	1839	2	US-09-172-977-4	Sequence 4, Appli
18	126	4.3	843	2	US-09-172-977-3	Sequence 3, Appli
19	124.5	4.2	300	2	US-08-897-340-32	Sequence 32, Appl
20	124.5	4.2	300	4	US-09-252-329-32	Sequence 32, Appl
21	122	4.1	41	2	US-08-989-478-17	Sequence 17, Appl
22	122	4.1	41	2	US-08-989-478-19	Sequence 19, Appl
23	122	4.1	41	2	US-08-989-478-21	Sequence 21, Appl
24	122	4.1	41	2	US-08-989-478-23	Sequence 23, Appl
25	122	4.1	41	3	US-08-996-685-17	Sequence 17, Appl
26	122	4.1	41	3	US-08-996-685-19	Sequence 19, Appl
27	122	4.1	41	3	US-08-996-685-21	Sequence 21, Appl
28	122	4.1	41	3	US-08-996-685-23	Sequence 23, Appl
29	122	4.1	41	3	US-08-880-179-4	Sequence 4, Appli
30	122	4.1	41	3	US-08-880-179-6	Sequence 6, Appli
31	122	4.1	41	3	US-08-880-179-8	Sequence 8, Appli
32	122	4.1	41	3	US-08-880-179-10	Sequence 10, Appl
33	119.5	4.0	359	1	US-08-388-756-2	Sequence 2, Appli
34	119.5	4.0	359	2	US-08-748-428-2	Sequence 2, Appli
35	119.5	4.0	359	2	US-08-802-322-3	Sequence 3, Appli
36	119.5	4.0	359	4	US-08-910-820-2	Sequence 2, Appli
37	119.5	4.0	389	2	US-08-802-322-14	Sequence 14, Appl
38	119	4.0	1166	4	US-09-350-982C-5	Sequence 5, Appli
39	116	3.9	787	4	US-09-188-930-334	Sequence 334, App
40	112	3.8	1964	4	US-09-467-997-1	Sequence 1, Appli
41	111.5	3.8	356	2	US-08-903-851-2	Sequence 2, Appli
42	110.5	3.7	673	4	US-09-196-387-8	Sequence 8, Appli
43	110	3.7	292	4	US-09-605-785-532	Sequence 532, App
44	110	3.7	292	4	US-09-439-313-532	Sequence 532, App
45	110	3.7	329	4	US-09-605-785-376	Sequence 376, App

ALIGNMENTS

RESULT 1
US-08-989-478-2
; Sequence 2, Application US/08989478
; Patent No. 5986082
; GENERAL INFORMATION:
; APPLICANT: Uknes, Scott
; APPLICANT: Hunt, Michelle
; APPLICANT: Steiner, Henry-York
; APPLICANT: Ryals, John
; TITLE OF INVENTION: ALTERED FORMS OF THE NIM1 GENE CONFERRING
; TITLE OF INVENTION: DISEASE RESISTANCE IN PLANTS
; NUMBER OF SEQUENCES: 32
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: No. 5986082artis Corporation
; STREET: 3054 Cornwallis Road
; CITY: Research Triangle Park
; STATE: No. 5986082th Carolina
; COUNTRY: USA
; ZIP: 27709
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/989,478
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/033,177
; FILING DATE: 13-DEC-1996
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/034,379
; FILING DATE: 27-DEC-1996
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/034,382
; FILING DATE: 27-DEC-1996
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/034,730
; FILING DATE: 10-JAN-1997
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/035,021
; FILING DATE: 10-JAN-1997
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/035,022
; FILING DATE: 10-JAN-1997
; ATTORNEY/AGENT INFORMATION:
; NAME: Meigs, J. Timothy
; REGISTRATION NUMBER: 38,241
; REFERENCE/DOCKET NUMBER: PF/5-21214/P1/CGC1911

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;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (919) 541-8587
;      TELEFAX:  (919) 541-8689
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;     LENGTH: 593 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-989-478-2

  Query Match             43.2%;  Score 1276;  DB 2;  Length 593;
  Best Local Similarity   47.2%;  Pred. No. 1.4e-121;
  Matches  273;  Conservative  113;  Mismatches  165;  Indels   28;  Gaps    9;

Qy       5 TSHVTNAFSDSDSASVEEGDADADADVEALRRLSDNLAAAFRSPEDFAFLADARIAVPGG 64
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Qy     185 LFQRRLLDVLDKVEVDNLLLILSVANLCNKSCMKLLERCLDMVVRSNLDMITLEKSLPPD 244
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Qy     305 YAVEHCDSKITTELLDLALADVNHRNPRGYTVLHIAARRREPKIIVSLLTKGARPADVTF 364
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Qy     365 DGRKAVQISKRLTKQGDYFGVTEEGKPSPKDRLCIEILEQAERRDPQLGEASVSLAMAGE 424
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Qy     425 SLRGRLLYLENRVALARIMFPMEARVAMDIAQVDGTLEFNLGSGANPPPER----QRTTV 480
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Qy     481 DLNESPFIMKEEHLARMTALSKTVELGKRFFPRCSNVLDKIMD-DETDPVSLGRDTSAEK 539
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Qy     540 R----KRFHDLQDVLQKAFHEDKEENDRSGLSSSSSSTS 574
Db     538 RLQKKQRYMEIQETLKKAFSEDNLELGNSSLTDSTSSTS 576


RESULT 2
US-08-996-685-2
; Sequence 2, Application US/08996685
; Patent No. 6031153
; GENERAL INFORMATION:
;    APPLICANT:  Ryals, John
;    APPLICANT:  Friedrich, Leslie
;    APPLICANT:  Uknes, Scott
;    APPLICANT:  Molina, Antonio
;    APPLICANT:  Ruess, Wilhelm
;    APPLICANT:  Knauf-Beiter, Gertrude
;    APPLICANT:  Kung, Ruth
;    APPLICANT:  Kessmann, Helmut
;    APPLICANT:  Oostendorp, Michael
;    TITLE OF INVENTION:  METHOD FOR PROTECTING PLANTS
;    NUMBER OF SEQUENCES:  32
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  No. 6031153artis Corporation
;      STREET:  3054 Cornwallis Road
;      CITY:  Research Triangle Park
;      STATE:  No. 6031153th Carolina
;      COUNTRY:  USA
;      ZIP:  27709
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/996,685
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/761,543
;      FILING DATE:  6-DEC-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/034,378
;      FILING DATE:  27-DEC-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/034,379
;      FILING DATE:  27-DEC-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/034,382
;      FILING DATE:  27-DEC-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/034,730
;      FILING DATE:  10-JAN-1997
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/035,021
;      FILING DATE:  10-JAN-1997
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/035,022
;      FILING DATE:  10-JAN-1997
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/035,024
;      FILING DATE:  10-JAN-1997
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/875,015
;      FILING DATE:  16-JUL-1997
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Meigs, J. Timothy
;      REGISTRATION NUMBER:  38,241
;      REFERENCE/DOCKET NUMBER:  PF/5-21215/P1/CGC1912
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (919) 541-8587
;      TELEFAX:  (919) 541-8689
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;     LENGTH: 593 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-996-685-2

  Query Match             43.2%;  Score 1276;  DB 3;  Length 593;
  Best Local Similarity   47.2%;  Pred. No. 1.4e-121;
  Matches  273;  Conservative  113;  Mismatches  165;  Indels   28;  Gaps    9;

Qy       5 TSHVTNAFSDSDSASVEEGDADADADVEALRRLSDNLAAAFRSPEDFAFLADARIAVPGG 64
Db      17 TSFVATDNTDSSIVYLAAEQVLTGPDVSALQLLSNSFESVFDSPDD--FYSDAKLVL--- 71

Qy      65 GGGGGDLRVHRCVLSARSPFLRGVFARRAAAAAGGGGEDGSERLELRELLGGGGEEVEVG 124
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Qy     125 YEALRLVLDYLYSGRVGDLPKAACLCVDEDCAHVGCHPAVAFMAQVLFAASTFQVAELTN 184
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Qy    245 VIKQIIDARLSLGLISPENKGFPNKHVRRIHRALDSDDVELVRMLLTEGQTNLDDAFALH 304
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Db    245 LVKEIIDRRKELGLEVPKVK----KHVSNVHKALDSDDIELVKLLLKEDHTNLDDACALH 300

Qy    305 YAVEHCDSKITTELLDLALADVNHRNPRGYTVLHIAARRREPKIIVSLLTKGARPADVTF 364
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Db    301 FAVAYCNVKTATDLLKLDLADVNHRNPRGYTVLHVAAMRKEPQLILSLLEKGASASEATL 360

Qy    365 DGRKAVQISKRLTKQGDYFGVTEEGKPSPKDRLCIEILEQAERRDPQLGEASVSLAMAGE 424
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Db    361 EGRTALMIAKQATMAVECNNIPEQCKHSLKGRLCVEILEQEDKREQIPRDVPPSFAVAAD 420

Qy    425 SLRGRLLYLENRVALARIMFPMEARVAMDIAQVDGTLEFNLGSGANPPPER----QRTTV 480
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Db    421 ELKMTLLDLENRVALAQRLFPTEAQAAMEIAEMKGTCEFIVTS---LEPDRLTGTKRTSP 477

Qy    481 DLNESPFIMKEEHLARMTALSKTVELGKRFFPRCSNVLDKIMD-DETDPVSLGRDTSAEK 539
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Db    478 GVKIAPFRILEEHQSRLKALSKTVELGKRFFPRCSAVLDQIMNCEDLTQLACGEDDTAEK 537

Qy    540 R----KRFHDLQDVLQKAFHEDKEENDRSGLSSSSSSTS 574
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Db    538 RLQKKQRYMEIQETLKKAFSEDNLELGNSSLTDSTSSTS 576


RESULT 3
US-08-880-179-3
; Sequence 3, Application US/08880179
; Patent No. 6091004
;  GENERAL INFORMATION:
;    APPLICANT:  Ryals, John
;    APPLICANT:  Delaney, Terry
;    APPLICANT:  Friedrich, Leslie
;    APPLICANT:  Weymann, Kristianna
;    APPLICANT:  Lawton, Kay
;    APPLICANT:  Ellis, Daniel
;    APPLICANT:  Uknes, Scott
;    APPLICANT:  Jesse, Taco
;    APPLICANT:  Vos, Pieter
;    TITLE OF INVENTION:  GENE ENCODING A PROTEIN INVOLVED IN THE
;    TITLE OF INVENTION:  SIGNAL TRANSDUCTION CASCADE LEADING TO SYSTEMIC ACQUIRED RESIS
;    TITLE OF INVENTION:  IN PLANTS
;    NUMBER OF SEQUENCES:  17
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  No. 6091004artis Corporation
;      STREET:  520 White Plains Road, P.O. Box 2005
;      CITY:  Tarrytown
;      STATE:  New York
;      COUNTRY:  USA
;      ZIP:  10591
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/880,179
;      FILING DATE:
;      CLASSIFICATION:  800
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Meigs, J. Timothy
;      REGISTRATION NUMBER:  38,241
;      REFERENCE/DOCKET NUMBER:  CGC 1909
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (919) 541-8587
;      TELEFAX:  (919) 541-8689
;  INFORMATION FOR SEQ ID NO:  3:
;    SEQUENCE CHARACTERISTICS:
;     LENGTH: 593 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-880-179-3

  Query Match             43.2%;  Score 1276;  DB 3;  Length 593;
  Best Local Similarity   47.2%;  Pred. No. 1.4e-121;
  Matches  273;  Conservative  113;  Mismatches  165;  Indels   28;  Gaps    9;

Qy      5 TSHVTNAFSDSDSASVEEGDADADADVEALRRLSDNLAAAFRSPEDFAFLADARIAVPGG 64
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Db    125 FDSVVTVLAYVYSSRVRPPPKGVSECADENCCHVACRPAVDFMLEVLYLAFIFKIPELIT 184

Qy    185 LFQRRLLDVLDKVEVDNLLLILSVANLCNKSCMKLLERCLDMVVRSNLDMITLEKSLPPD 244
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Db    185 LYQRHLLDVVDKVVIEDTLVILKLANICGKACMKLLDRCKEIIVKSNVDMVSLEKSLPEE 244

Qy    245 VIKQIIDARLSLGLISPENKGFPNKHVRRIHRALDSDDVELVRMLLTEGQTNLDDAFALH 304
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Db    245 LVKEIIDRRKELGLEVPKVK----KHVSNVHKALDSDDIELVKLLLKEDHTNLDDACALH 300

Qy    305 YAVEHCDSKITTELLDLALADVNHRNPRGYTVLHIAARRREPKIIVSLLTKGARPADVTF 364
          :|| :|: |  |:|| | ||||||||||||||||:|| |:|||::|:||| |||  :: |
Db    301 FAVAYCNVKTATDLLKLDLADVNHRNPRGYTVLHVAAMRKEPQLILSLLEKGASASEATL 360

Qy    365 DGRKAVQISKRLTKQGDYFGVTEEGKPSPKDRLCIEILEQAERRDPQLGEASVSLAMAGE 424
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Db    361 EGRTALMIAKQATMAVECNNIPEQCKHSLKGRLCVEILEQEDKREQIPRDVPPSFAVAAD 420

Qy    425 SLRGRLLYLENRVALARIMFPMEARVAMDIAQVDGTLEFNLGSGANPPPER----QRTTV 480
          |:  || |||||||: :|| ||: ||:||:: || || : |     |:|    :||:
Db    421 ELKMTLLDLENRVALAQRLFPTEAQAAMEIAEMKGTCEFIVTS---LEPDRLTGTKRTSP 477

Qy    481 DLNESPFIMKEEHLARMTALSKTVELGKRFFPRCSNVLDKIMD-DETDPVSLGRDTSAEK 539
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Db    478 GVKIAPFRILEEHQSRLKALSKTVELGKRFFPRCSAVLDQIMNCEDLTQLACGEDDTAEK 537

Qy    540 R----KRFHDLQDVLQKAFHEDKEENDRSGLSSSSSSTS 574
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RESULT 4
US-08-989-478-8
; Sequence 8, Application US/08989478
; Patent No. 5986082
;  GENERAL INFORMATION:
;    APPLICANT:  Uknes, Scott
;    APPLICANT:  Hunt, Michelle
;    APPLICANT:  Steiner, Henry-York
;    APPLICANT:  Ryals, John
;    TITLE OF INVENTION:  ALTERED FORMS OF THE NIM1 GENE CONFERRING
;    TITLE OF INVENTION:  DISEASE RESISTANCE IN PLANTS
;    NUMBER OF SEQUENCES:  32
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  No. 5986082artis Corporation
;      STREET:  3054 Cornwallis Road
;      CITY:  Research Triangle Park
;      STATE:  No. 5986082th Carolina
;      COUNTRY:  USA
;      ZIP:  27709
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
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;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/989,478
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/033,177
;      FILING DATE:  13-DEC-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/034,379
;      FILING DATE:  27-DEC-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/034,382
;      FILING DATE:  27-DEC-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/034,730
;      FILING DATE:  10-JAN-1997
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/035,021
;      FILING DATE:  10-JAN-1997
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/035,022
;      FILING DATE:  10-JAN-1997
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Meigs, J. Timothy
;      REGISTRATION NUMBER:  38,241
;      REFERENCE/DOCKET NUMBER:  PF/5-21214/P1/CGC1911
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (919) 541-8587
;      TELEFAX:  (919) 541-8689
;  INFORMATION FOR SEQ ID NO:  8:
;    SEQUENCE CHARACTERISTICS:
;     LENGTH: 593 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-989-478-8

  Query Match             43.0%;  Score 1270;  DB 2;  Length 593;
  Best Local Similarity   47.0%;  Pred. No. 5.9e-121;
  Matches  272;  Conservative  113;  Mismatches  166;  Indels   28;  Gaps    9;

Qy       5 TSHVTNAFSDSDSASVEEGDADADADVEALRRLSDNLAAAFRSPEDFAFLADARIAVPGG 64
Db      17 TSFVATDNTDSSIVYLAAEQVLTGPDVSALQLLSNSFEAVFDAPDD--FYSDAKLVL--- 71

Qy      65 GGGGGDLRVHRCVLSARSPFLRGVFARRAAAAAGGGGEDGSERLELRELLGGGGEEVEVG 124
Db      72 -SDGREVSFHRCVLSARSSFFKSALA--AAKKEKDSNNTAAVKLELKEI----AKDYEVG 124

Qy     125 YEALRLVLDYLYSGRVGDLPKAACLCVDEDCAHVGCHPAVAFMAQVLFAASTFQVAELTN 184
Db     125 FDSVVTVLAYVYSSRVRPPPKGVSECADENCCHVACRPAVDFMLEVLYLAFIFKIPELIT 184

Qy     185 LFQRRLLDVLDKVEVDNLLLILSVANLCNKSCMKLLERCLDMVVRSNLDMITLEKSLPPD 244
Db     185 LYQRHLLDVVDKVVIEDTLVILKLANICGKACMKLLDRCKEIIVKSNVDMVSLEKSLPEE 244

Qy     245 VIKQIIDARLSLGLISPENKGFPNKHVRRIHRALDSDDVELVRMLLTEGQTNLDDAFALH 304
Db     245 LVKEIIDRRKELGLEVPKVK----KHVSNVHKALDSDDIELVKLLLKEDHTNLDDACALH 300

Qy     305 YAVEHCDSKITTELLDLALADVNHRNPRGYTVLHIAARRREPKIIVSLLTKGARPADVTF 364
Db     301 FAVAYCNVKTATDLLKLDLADVNHRNPRGYTVLHVAAMRKEPQLILSLLEKGASASEATL 360

Qy     365 DGRKAVQISKRLTKQGDYFGVTEEGKPSPKDRLCIEILEQAERRDPQLGEASVSLAMAGE 424
Db     361 EGRTALMIAKQATMAVECNNIPEQCKHSLKGRLCVEILEQEDKREQIPRDVPPSFAVAAD 420

Qy     425 SLRGRLLYLENRVALARIMFPMEARVAMDIAQVDGTLEFNLGSGANPPPER----QRTTV 480
Db     421 ELKMTLLDLENRVALAQRLFPTEAQAAMEIAEMKGTCEFIVTS---LEPDRLTGTKRTSP 477

Qy     481 DLNESPFIMKEEHLARMTALSKTVELGKRFFPRCSNVLDKIMD-DETDPVSLGRDTSAEK 539
Db     478 GVKIAPFRILEEHQSRLKALSKTVELGKRFFPRCSAVLDQIMNCEDLTQLACGEDDTAEK 537

Qy     540 R----KRFHDLQDVLQKAFHEDKEENDRSGLSSSSSSTS 574
Db     538 RLQKKQRYMEIQETLKKAFSEDNLELGNLSLTDSTSSTS 576


RESULT 5
US-08-996-685-8
; Sequence 8, Application US/08996685
; Patent No. 6031153
;  GENERAL INFORMATION:
;    APPLICANT:  Ryals, John
;    APPLICANT:  Friedrich, Leslie
;    APPLICANT:  Uknes, Scott
;    APPLICANT:  Molina, Antonio
;    APPLICANT:  Ruess, Wilhelm
;    APPLICANT:  Knauf-Beiter, Gertrude
;    APPLICANT:  Kung, Ruth
;    APPLICANT:  Kessmann, Helmut
;    APPLICANT:  Oostendorp, Michael
;    TITLE OF INVENTION:  METHOD FOR PROTECTING PLANTS
;    NUMBER OF SEQUENCES:  32
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  No. 6031153artis Corporation
;      STREET:  3054 Cornwallis Road
;      CITY:  Research Triangle Park
;      STATE:  No. 6031153th Carolina
;      COUNTRY:  USA
;      ZIP:  27709
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/996,685
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/761,543
;      FILING DATE:  6-DEC-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/034,378
;      FILING DATE:  27-DEC-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/034,379
;      FILING DATE:  27-DEC-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/034,382
;      FILING DATE:  27-DEC-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/034,730
;      FILING DATE:  10-JAN-1997
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/035,021
;      FILING DATE:  10-JAN-1997
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/035,022
;      FILING DATE:  10-JAN-1997
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/035,024
;      FILING DATE:  10-JAN-1997
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/875,015
;      FILING DATE:  16-JUL-1997
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Meigs, J. Timothy
;      REGISTRATION NUMBER:  38,241
;      REFERENCE/DOCKET NUMBER:  PF/5-21215/P1/CGC1912
```

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;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (919) 541-8587
;      TELEFAX:  (919) 541-8689
;  INFORMATION FOR SEQ ID NO:  8:
;    SEQUENCE CHARACTERISTICS:
;     LENGTH: 593 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-996-685-8

  Query Match             43.0%;  Score 1270;  DB 3;  Length 593;
  Best Local Similarity   47.0%;  Pred. No. 5.9e-121;
  Matches  272;  Conservative  113;  Mismatches  166;  Indels   28;  Gaps    9;

Qy       5 TSHVTNAFSDSDSASVEEGDADADADVEALRRLSDNLAAAFRSPEDFAFLADARIAVPGG 64
           || |    :||    :          || ||: ||::  | | :|:|  | :||:: :
Db      17 TSFVATDNTDSSIVYLAAEQVLTGPDVSALQLLSNSFEAVFDAPDD--FYSDAKLVL--- 71

Qy      65 GGGGGDLRVHRCVLSARSPFLRGVFARRAAAAAGGGGEDGSERLELRELLGGGGEEVEVG 124
             | ::  ||||||||| | :   |  ||          : :|||:|:     :: |||
Db      72 -SDGREVSFHRCVLSARSSFFKSALA--AAKKEKDSNNTAAVKLELKEI----AKDYEVG 124

Qy     125 YEALRLVLDYLYSGRVGDLPKAACLCVDEDCAHVGCHPAVAFMAQVLFAASTFQVAELTN 184
           ::::  || |:|| ||   ||    | ||:| || | ||| || :||: | :: ||
Db     125 FDSVVTVLAYVYSSRVRPPPKGVSECADENCCHVACRPAVDFMLEVLYLAFIFKIPELIT 184

Qy     185 LFQRRLLDVLDKVEVDNLLLILSVANLCNKSCMKLLERCLDMVVRSNLDMITLEKSLPPD 244
           |:|| |||:||| ::: |:|| :||:| |:|||||:|| :::|:|||:||::|||||| :
Db     185 LYQRHLLDVVDKVVIEDTLVILKLANICGKACMKLLDRCKEIIVKSNVDMVSLEKSLPEE 244

Qy     245 VIKQIIDARLSLGLISPENKGFPNKHVRRIHRALDSDDVELVRMLLTEGQTNLDDAFALH 304
           ::|:||| |  |||  |: |    ||| :|:||||||:|||::|| |  |||||| |||
Db     245 LVKEIIDRRKELGLEVPKVK----KHVSNVHKALDSDDIELVKLLLKEDHTNLDDACALH 300

Qy     305 YAVEHCDSKITTELLDLALADVNHRNPRGYTVLHIAARRREPKIIVSLLTKGARPADVTF 364
           :|| :|: |  |:|| | |||||||||||||||:|| |:||::|:||| |||  :: |
Db     301 FAVAYCNVKTATDLLKLDLADVNHRNPRGYTVLHVAAMRKEPQLILSLLEKGASASEATL 360

Qy     365 DGRKAVQISKRLTKQGDYFGVTEEGKPSPKDRLCIEILEQAERRDPQLGEASVSLAMAGE 424
           :|| |: |:|: |   :   : |: | | | |||:||||| ::|:    :   | |:| :
Db     361 EGRTALMIAKQATMAVECNNIPEQCKHSLKGRLCVEILEQEDKREQIPRDVPPSFAVAAD 420

Qy     425 SLRGRLLYLENRVALARIMFPMEARVAMDIAQVDGTLEFNLGSGANPPPER----QRTTV 480
             |:  || ||||||||: :|| ||: ||:||:: || || : |     |:|    :||:
Db     421 ELKMTLLDLENRVALAQRLFPTEAQAAMEIAEMKGTCEFIVTS---LEPDRLTGTKRTSP 477

Qy     481 DLNESPFIMKEEHLARMTALSKTVELGKRFFPRCSNVLDKIMD-DETDPVSLGRDTSAEK 539
             :  :|| : ||| :|: |||||||||||||||| |||:||: ::   :: | | :|||
Db     478 GVKIAPFRILEEHQSRLKALSKTVELGKRFFPRCSAVLDQIMNCEDLTQLACGEDDTAEK 537

Qy     540 R----KRFHDLQDVLQKAFHEDKEENDRSGLSSSSSSTS 574
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RESULT 6
US-08-989-478-12
; Sequence 12, Application US/08989478
; Patent No. 5986082
;  GENERAL INFORMATION:
;    APPLICANT:  Uknes, Scott
;    APPLICANT:  Hunt, Michelle
;    APPLICANT:  Steiner, Henry-York
;    APPLICANT:  Ryals, John
;    TITLE OF INVENTION:  ALTERED FORMS OF THE NIM1 GENE CONFERRING
;    TITLE OF INVENTION:  DISEASE RESISTANCE IN PLANTS
;    NUMBER OF SEQUENCES:  32
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  No. 5986082artis Corporation
;      STREET:  3054 Cornwallis Road
;      CITY:  Research Triangle Park
;      STATE:  No. 5986082th Carolina
;      COUNTRY:  USA
;      ZIP:  27709
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/989,478
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/033,177
;      FILING DATE:  13-DEC-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/034,379
;      FILING DATE:  27-DEC-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/034,382
;      FILING DATE:  27-DEC-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/034,730
;      FILING DATE:  10-JAN-1997
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/035,021
;      FILING DATE:  10-JAN-1997
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/035,022
;      FILING DATE:  10-JAN-1997
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Meigs, J. Timothy
;      REGISTRATION NUMBER:  38,241
;      REFERENCE/DOCKET NUMBER:  PF/5-21214/P1/CGC1911
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (919) 541-8587
;      TELEFAX:  (919) 541-8689
;  INFORMATION FOR SEQ ID NO:  12:
;    SEQUENCE CHARACTERISTICS:
;     LENGTH: 521 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-989-478-12

  Query Match             40.3%;  Score 1188.5;  DB 2;  Length 521;
  Best Local Similarity   48.0%;  Pred. No. 1e-112;
  Matches  251;  Conservative  100;  Mismatches  149;  Indels   23;  Gaps    7;

Qy       5 TSHVTNAFSDSDSASVEEGDADADADVEALRRLSDNLAAAFRSPEDFAFLADARIAVPGG 64
           || |    :||    :          || ||: ||::  : | ||:|  | :||:: :
Db      17 TSFVATDNTDSSIVYLAAEQVLTGPDVSALQLLSNSFESVFDSPDD--FYSDAKLVL--- 71

Qy      65 GGGGGDLRVHRCVLSARSPFLRGVFARRAAAAAGGGGEDGSERLELRELLGGGGEEVEVG 124
             | ::  ||||||||| | :   |  ||          : :|||:|:     :: |||
Db      72 -SDGREVSFHRCVLSARSSFFKSALA--AAKKEKDSNNTAAVKLELKEI----AKDYEVG 124

Qy     125 YEALRLVLDYLYSGRVGDLPKAACLCVDEDCAHVGCHPAVAFMAQVLFAASTFQVAELTN 184
           ::::  || |:|| ||   ||    | ||:| || | ||| || :||: |  |:: ||
Db     125 FDSVVTVLAYVYSSRVRPPPKGVSECADENCCHVACRPAVDFMLEVLYLAFIFKIPELIT 184

Qy     185 LFQRRLLDVLDKVEVDNLLLILSVANLCNKSCMKLLERCLDMVVRSNLDMITLEKSLPPD 244
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Db     185 LYQRHLLDVVDKVVIEDTLVILKLANICGKACMKLLDRCKEIIVKSNVDMVSLEKSLPEE 244

Qy     245 VIKQIIDARLSLGLISPENKGFPNKHVRRIHRALDSDDVELVRMLLTEGQTNLDDAFALH 304
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Db     245 LVKEIIDRRKELGLEVPKVK----KHVSNVHKALDSDDIELVKLLLKEDHTNLDDACALH 300

Qy     305 YAVEHCDSKITTELLDLALADVNHRNPRGYTVLHIAARRREPKIIVSLLTKGARPADVTF 364
           :|| :|: |  |:|| | |||||||||||||||:|| |:||::|:||| |||  :: |
Db     301 FAVAYCNVKTATDLLKLDLADVNHRNPRGYTVLHVAAMRKEPQLILSLLEKGASASEATL 360

Qy     365 DGRKAVQISKRLTKQGDYFGVTEEGKPSPKDRLCIEILEQAERRDPQLGEASVSLAMAGE 424
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          :|| |: |:|: |   :   : |: | | | |||:|||||  ::|:    :   | |:| :
Db     361 EGRTALMIAKQATMAVECNNIPEQCKHSLKGRLCVEILEQEDKREQIPRDVPPSFAVAAD 420

Qy     425 SLRGRLLYLENRVALARIMFPMEARVAMDIAQVDGTLEFNLGSGANPPPER----QRTTV 480
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Db     421 ELKMTLLDLENRVALAQRLFPTEAQAAMEIAEMKGTCEFIVTS---LEPDRLTGTKRTSP 477

Qy     481 DLNESPFIMKEEHLARMTALSKTVELGKRFFPRCSNVLDKIMD 523
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Db     478 GVKIAPFRILEEHQSRLKALSKTVELGKRFFPRCSAVLDQIMN 520


RESULT 7
US-08-996-685-12
; Sequence 12, Application US/08996685
; Patent No. 6031153
;  GENERAL INFORMATION:
;    APPLICANT:  Ryals, John
;    APPLICANT:  Friedrich, Leslie
;    APPLICANT:  Uknes, Scott
;    APPLICANT:  Molina, Antonio
;    APPLICANT:  Ruess, Wilhelm
;    APPLICANT:  Knauf-Beiter, Gertrude
;    APPLICANT:  Kung, Ruth
;    APPLICANT:  Kessmann, Helmut
;    APPLICANT:  Oostendorp, Michael
;    TITLE OF INVENTION:  METHOD FOR PROTECTING PLANTS
;    NUMBER OF SEQUENCES:  32
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  No. 6031153artis Corporation
;      STREET:  3054 Cornwallis Road
;      CITY:  Research Triangle Park
;      STATE:  No. 6031153th Carolina
;      COUNTRY:  USA
;      ZIP:  27709
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/996,685
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/761,543
;      FILING DATE:  6-DEC-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/034,378
;      FILING DATE:  27-DEC-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/034,379
;      FILING DATE:  27-DEC-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/034,382
;      FILING DATE:  27-DEC-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/034,730
;      FILING DATE:  10-JAN-1997
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/035,021
;      FILING DATE:  10-JAN-1997
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/035,022
;      FILING DATE:  10-JAN-1997
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/035,024
;      FILING DATE:  10-JAN-1997
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/875,015
;      FILING DATE:  16-JUL-1997
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Meigs, J. Timothy
;      REGISTRATION NUMBER:  38,241
;      REFERENCE/DOCKET NUMBER:  PF/5-21215/P1/CGC1912
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (919) 541-8587
;      TELEFAX:  (919) 541-8689
;  INFORMATION FOR SEQ ID NO:  12:
;    SEQUENCE CHARACTERISTICS:
;     LENGTH: 521 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-996-685-12

  Query Match             40.3%;  Score 1188.5;  DB 3;  Length 521;
  Best Local Similarity   48.0%;  Pred. No. 1e-112;
  Matches  251;  Conservative  100;  Mismatches  149;  Indels   23;  Gaps    7;

Qy       5 TSHVTNAFSDSDSASVEEGDADADADVEALRRLSDNLAAAFRSPEDFAFLADARIAVPGG 64
             || |    :||    :          || ||: ||::  : | ||:|  | :||:: :
Db      17 TSFVATDNTDSSIVYLAAEQVLTGPDVSALQLLSNSFESVFDSPDD--FYSDAKLVL--- 71

Qy      65 GGGGGDLRVHRCVLSARSPFLRGVFARRAAAAAGGGGEDGSERLELRELLGGGGEEVEVG 124
              | ::  |||||||||| | :   |  ||          : :|||:|:     :: |||
Db      72 -SDGREVSFHRCVLSARSSFFKSALA--AAKKEKDSNNTAAVKLELKEI----AKDYEVG 124

Qy     125 YEALRLVLDYLYSGRVGDLPKAACLCVDEDCAHVGCHPAVAFMAQVLFAASTFQVAELTN 184
           ::::  || |:|| ||   ||    | ||:| || | ||| || :||: |  |:: ||
Db     125 FDSVVTVLAYVYSSRVRPPPKGVSECADENCCHVACRPAVDFMLEVLYLAFIFKIPELIT 184

Qy     185 LFQRRLLDVLDKVEVDNLLLILSVANLCNKSCMKLLERCLDMVVRSNLDMITLEKSLPPD 244
           |:|| ||||:||| ::: |:|| :||:| |:|||||:|| :::|:||:||::|||||| :
Db     185 LYQRHLLDVVDKVVIEDTLVILKLANICGKACMKLLDRCKEIIVKSNVDMVSLEKSLPEE 244

Qy     245 VIKQIIDARLSLGLISPENKGFPNKHVRRIHRALDSDDVELVRMLLTEGQTNLDDAFALH 304
           ::|:||| |  |||  |: |    |||  :|:|||||:|||::|| |  ||||||| |||
Db     245 LVKEIIDRRKELGLEVPKVK----KHVSNVHKALDSDDIELVKLLLKEDHTNLDDACALH 300

Qy     305 YAVEHCDSKITTELLDLALADVNHRNPRGYTVLHIAARRREPKIIVSLLTKGARPADVTF 364
           :|| :|: |  |:|| | ||||||||||||||||:|| |:||::|:||| |||  :: |
Db     301 FAVAYCNVKTATDLLKLDLADVNHRNPRGYTVLHVAAMRKEPQLILSLLEKGASASEATL 360

Qy     365 DGRKAVQISKRLTKQGDYFGVTEEGKPSPKDRLCIEILEQAERRDPQLGEASVSLAMAGE 424
           :|| |: |:|: |   :   : |: | | | |||:||||| ::|:    :   | |:| :
Db     361 EGRTALMIAKQATMAVECNNIPEQCKHSLKGRLCVEILEQEDKREQIPRDVPPSFAVAAD 420

Qy     425 SLRGRLLYLENRVALARIMFPMEARVAMDIAQVDGTLEFNLGSGANPPPER----QRTTV 480
           |:  || ||||||||: :|| ||: ||:||:: || || : |     |:|    :||:
Db     421 ELKMTLLDLENRVALAQRLFPTEAQAAMEIAEMKGTCEFIVTS---LEPDRLTGTKRTSP 477

Qy     481 DLNESPFIMKEEHLARMTALSKTVELGKRFFPRCSNVLDKIMD 523
             :  :|| : ||| :|: ||||||||||||||||| |||:||:
Db     478 GVKIAPFRILEEHQSRLKALSKTVELGKRFFPRCSAVLDQIMN 520


RESULT 8
US-08-989-478-10
; Sequence 10, Application US/08989478
; Patent No. 5986082
;  GENERAL INFORMATION:
;    APPLICANT:  Uknes, Scott
;    APPLICANT:  Hunt, Michelle
;    APPLICANT:  Steiner, Henry-York
;    APPLICANT:  Ryals, John
;    TITLE OF INVENTION:  ALTERED FORMS OF THE NIM1 GENE CONFERRING
;    TITLE OF INVENTION:  DISEASE RESISTANCE IN PLANTS
;    NUMBER OF SEQUENCES:  32
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  No. 5986082artis Corporation
;      STREET:  3054 Cornwallis Road
;      CITY:  Research Triangle Park
;      STATE:  No. 5986082th Carolina
;      COUNTRY:  USA
;      ZIP:  27709
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;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/989,478
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/033,177
;      FILING DATE:  13-DEC-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/034,379
;      FILING DATE:  27-DEC-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/034,382
;      FILING DATE:  27-DEC-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/034,730
;      FILING DATE:  10-JAN-1997
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/035,021
;      FILING DATE:  10-JAN-1997
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/035,022
;      FILING DATE:  10-JAN-1997
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Meigs, J. Timothy
;      REGISTRATION NUMBER:  38,241
;      REFERENCE/DOCKET NUMBER:  PF/5-21214/P1/CGC1911
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (919) 541-8587
;      TELEFAX:  (919) 541-8689
;  INFORMATION FOR SEQ ID NO:  10:
;    SEQUENCE CHARACTERISTICS:
;     LENGTH: 469 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-989-478-10

  Query Match             38.4%;  Score 1134;  DB 2;  Length 469;
  Best Local Similarity   51.4%;  Pred. No. 3.2e-107;
  Matches  233;  Conservative   89;  Mismatches  115;  Indels   16;  Gaps    5;

Qy    131 VLDYLYSGRVGDLPKAACLCVDEDCAHVGCHPAVAFMAQVLFAASTFQVAELTNLFQRRL 190
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Db      7 VLAYVYSSRVRPPPKGVSECADENCCHVACRPAVDFMLEVLYLAFIFKIPELITLYQRHL 66

Qy    191 LDVLDKVEVDNLLLILSVANLCNKSCMKLLERCLDMVVRSNLDMITLEKSLPPDVIKQII 250
          |||:||| ::: |:|| :||:| |:|||||:|| :::|:||:||::|||||| :::|:||
Db     67 LDVVDKVVIEDTLVILKLANICGKACMKLLDRCKEIIVKSNVDMVSLEKSLPEELVKEII 126

Qy    251 DARLSLGLISPENKGFPNKHVRRIHRALDSDDVELVRMLLTEGQTNLDDAFALHYAVEHC 310
          | |  |||  |: |    |||  :|:|||||:|||::|| |  |||||| |||:|| :|
Db    127 DRRKELGLEVPKVK----KHVSNVHKALDSDDIELVKLLLKEDHTNLDDACALHFAVAYC 182

Qy    311 DSKITTELLDLALADVNHRNPRGYTVLHIAARRREPKIIVSLLTKGARPADVTFDGRKAV 370
          : |  |:|| | ||||||||||||||||:|| |:||::|:||| |||  :: | :|| |:
Db    183 NVKTATDLLKLDLADVNHRNPRGYTVLHVAAMRKEPQLILSLLEKGASASEATLEGRTAL 242

Qy    371 QISKRLTKQGDYFGVTEEGKPSPKDRLCIEILEQAERRDPQLGEASVSLAMAGESLRGRL 430
           |:|: |   :   : |: | | | |||:|||| ::|:    :   | |:| : |:  |
Db    243 MIAKQATMAVECNNIPEQCKHSLKGRLCVEILEQEDKREQIPRDVPPSFAVAADELKMTL 302

Qy    431 LYLENRVALARIMFPMEARVAMDIAQVDGTLEFNLGSGANPPPER----QRTTVDLNESP 486
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Db    303 LDLENRVALAQRLFPTEAQAAMEIAEMKGTCEFIVTS---LEPDRLTGTKRTSPGVKIAP 359

Qy    487 FIMKEEHLARMTALSKTVELGKRFFPRCSNVLDKIMD-DETDPVSLGRDTSAEKR----K 541
          | : ||| :|: |||||||||||||||| |||:||: ::   :: | | :||||    :
Db    360 FRILEEHQSRLKALSKTVELGKRFFPRCSAVLDQIMNCEDLTQLACGEDDTAEKRLQKKQ 419

Qy    542 RFHDLQDVLQKAFHEDKEENDRSGLSSSSSSTS 574
          |: ::|: |:||| ||  |     |: |:||||
Db    420 RYMEIQETLKKAFSEDNLELGNLSLTDSTSSTS 452


RESULT 9
US-08-996-685-10
; Sequence 10, Application US/08996685
; Patent No. 6031153
;  GENERAL INFORMATION:
;    APPLICANT:  Ryals, John
;    APPLICANT:  Friedrich, Leslie
;    APPLICANT:  Uknes, Scott
;    APPLICANT:  Molina, Antonio
;    APPLICANT:  Ruess, Wilhelm
;    APPLICANT:  Knauf-Beiter, Gertrude
;    APPLICANT:  Kung, Ruth
;    APPLICANT:  Kessmann, Helmut
;    APPLICANT:  Oostendorp, Michael
;    TITLE OF INVENTION:  METHOD FOR PROTECTING PLANTS
;    NUMBER OF SEQUENCES:  32
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  No. 6031153artis Corporation
;      STREET:  3054 Cornwallis Road
;      CITY:  Research Triangle Park
;      STATE:  No. 6031153th Carolina
;      COUNTRY:  USA
;      ZIP:  27709
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/996,685
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/761,543
;      FILING DATE:  6-DEC-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/034,378
;      FILING DATE:  27-DEC-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/034,379
;      FILING DATE:  27-DEC-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/034,382
;      FILING DATE:  27-DEC-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/034,730
;      FILING DATE:  10-JAN-1997
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/035,021
;      FILING DATE:  10-JAN-1997
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/035,022
;      FILING DATE:  10-JAN-1997
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/035,024
;      FILING DATE:  10-JAN-1997
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/875,015
;      FILING DATE:  16-JUL-1997
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Meigs, J. Timothy
;      REGISTRATION NUMBER:  38,241
;      REFERENCE/DOCKET NUMBER:  PF/5-21215/P1/CGC1912
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (919) 541-8587
;      TELEFAX:  (919) 541-8689
;  INFORMATION FOR SEQ ID NO:  10:
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; SEQUENCE CHARACTERISTICS:
; LENGTH: 469 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-996-685-10

Query Match 38.4%; Score 1134; DB 3; Length 469;
Best Local Similarity 51.4%; Pred. No. 3.2e-107;
Matches 233; Conservative 89; Mismatches 115; Indels 16; Gaps 5;

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Db      7 VLAYVYSSRVRPPPKGVSECADENCCHVACRPAVDFMLEVLYLAFIFKIPELITLYQRHL 66

Qy    191 LDVLDKVEVDNLLLILSVANLCNKSCMKLLERCLDMVVRSNLDMITLEKSLPPDVIKQII 250
          |||:||| ::: |:|| :||:| |:|||||:|| :::|:||:||::|||||| :::|:||
Db     67 LDVVDKVVIEDTLVILKLANICGKACMKLLDRCKEIIVKSNVDMVSLEKSLPEELVKEII 126

Qy    251 DARLSLGLISPENKGFPNKHVRRIHRALDSDDVELVRMLLTEGQTNLDDAFALHYAVEHC 310
          | |  |||  |: |    |||  :|:||||||:|||::|| |  |||||| |||:|| :|
Db    127 DRRKELGLEVPKVK----KHVSNVHKALDSDDIELVKLLLKEDHTNLDDACALHFAVAYC 182

Qy    311 DSKITTELLDLALADVNHRNPRGYTVLHIAARRREPKIIVSLLTKGARPADVTFDGRKAV 370
          : |  |:|| | |||||||||||||||||:|| |:|||::|:||| |||  :: | :|| |:
Db    183 NVKTATDLLKLDLADVNHRNPRGYTVLHVAAMRKEPQLILSLLEKGASASEATLEGRTAL 242

Qy    371 QISKRLTKQGDYFGVTEEGKPSPKDRLCIEILEQAERRDPQLGEASVSLAMAGESLRGRL 430
          |:|: |   :   : |: | | | |||:||||| ::|:    :   | |:| : |:  |
Db    243 MIAKQATMAVECNNIPEQCKHSLKGRLCVEILEQEDKREQIPRDVPPSFAVAADELKMTL 302

Qy    431 LYLENRVALARIMFPMEARVAMDIAQVDGTLEFNLGSGANPPPER----QRTTVDLNESP 486
          | |||||||: :|| ||: ||:||:: || || : |     |:|    :||:  :  :|
Db    303 LDLENRVALAQRLFPTEAQAAMEIAEMKGTCEFIVTS---LEPDRLTGTKRTSPGVKIAP 359

Qy    487 FIMKEEHLARMTALSKTVELGKRFFPRCSNVLDKIMD-DETDPVSLGRDTSAEKR----K 541
          | : ||| :|: |||||||||||||||| |||:||: ::   :: | | :||||    :
Db    360 FRILEEHQSRLKALSKTVELGKRFFPRCSAVLDQIMNCEDLTQLACGEDDTAEKRLQKKQ 419

Qy    542 RFHDLQDVLQKAFHEDKEENDRSGLSSSSSSTS 574
          |: ::|: |:||| ||  |     |: |:|||
Db    420 RYMEIQETLKKAFSEDNLELGNLSLTDSTSSTS 452
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RESULT 10
US-08-989-478-14
; Sequence 14, Application US/08989478
; Patent No. 5986082
; GENERAL INFORMATION:
; APPLICANT: Uknes, Scott
; APPLICANT: Hunt, Michelle
; APPLICANT: Steiner, Henry-York
; APPLICANT: Ryals, John
; TITLE OF INVENTION: ALTERED FORMS OF THE NIM1 GENE CONFERRING
; TITLE OF INVENTION: DISEASE RESISTANCE IN PLANTS
; NUMBER OF SEQUENCES: 32
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: No. 5986082artis Corporation
; STREET: 3054 Cornwallis Road
; CITY: Research Triangle Park
; STATE: No. 5986082th Carolina
; COUNTRY: USA
; ZIP: 27709
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/989,478
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/033,177
; FILING DATE: 13-DEC-1996
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/034,379
; FILING DATE: 27-DEC-1996
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/034,382
; FILING DATE: 27-DEC-1996
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/034,730
; FILING DATE: 10-JAN-1997
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/035,021
; FILING DATE: 10-JAN-1997
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/035,022
; FILING DATE: 10-JAN-1997
; ATTORNEY/AGENT INFORMATION:
; NAME: Meigs, J. Timothy
; REGISTRATION NUMBER: 38,241
; REFERENCE/DOCKET NUMBER: PF/5-21214/P1/CGC1911
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (919) 541-8587
; TELEFAX: (919) 541-8689
; INFORMATION FOR SEQ ID NO: 14:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 397 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-989-478-14

Query Match 35.7%; Score 1052.5; DB 2; Length 397;
Best Local Similarity 53.4%; Pred. No. 5.3e-99;
Matches 212; Conservative 76; Mismatches 98; Indels 11; Gaps 3;

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Qy    131 VLDYLYSGRVGDLPKAACLCVDEDCAHVGCHPAVAFMAQVLFAASTFQVAELTNLFQRRL 190
          || |:|| ||   ||    | ||:| || | ||| || :||: |  |:: ||  |:|| |
Db      7 VLAYVYSSRVRPPPKGVSECADENCCHVACRPAVDFMLEVLYLAFIFKIPELITLYQRHL 66

Qy    191 LDVLDKVEVDNLLLILSVANLCNKSCMKLLERCLDMVVRSNLDMITLEKSLPPDVIKQII 250
          |||:||| ::: |:|| :||:| |:|||||:|| :::|:||:||::|||||| :::|:||
Db     67 LDVVDKVVIEDTLVILKLANICGKACMKLLDRCKEIIVKSNVDMVSLEKSLPEELVKEII 126

Qy    251 DARLSLGLISPENKGFPNKHVRRIHRALDSDDVELVRMLLTEGQTNLDDAFALHYAVEHC 310
          | |  |||  |: |    |||  :|:||||||:|||::|| |  |||||| |||:|| :|
Db    127 DRRKELGLEVPKVK----KHVSNVHKALDSDDIELVKLLLKEDHTNLDDACALHFAVAYC 182

Qy    311 DSKITTELLDLALADVNHRNPRGYTVLHIAARRREPKIIVSLLTKGARPADVTFDGRKAV 370
          : |  |:|| | |||||||||||||||||:|| |:|||::|:||| |||  :: | :|| |:
Db    183 NVKTATDLLKLDLADVNHRNPRGYTVLHVAAMRKEPQLILSLLEKGASASEATLEGRTAL 242

Qy    371 QISKRLTKQGDYFGVTEEGKPSPKDRLCIEILEQAERRDPQLGEASVSLAMAGESLRGRL 430
          |:|: |   :   : |: | | | |||:||||| ::|:    :   | |:| : |:  |
Db    243 MIAKQATMAVECNNIPEQCKHSLKGRLCVEILEQEDKREQIPRDVPPSFAVAADELKMTL 302

Qy    431 LYLENRVALARIMFPMEARVAMDIAQVDGTLEFNLGSGANPPPER----QRTTVDLNESP 486
          | |||||||: :|| ||: ||:||:: || || : |     |:|    :||:  :  :|
Db    303 LDLENRVALAQRLFPTEAQAAMEIAEMKGTCEFIVTS---LEPDRLTGTKRTSPGVKIAP 359

Qy    487 FIMKEEHLARMTALSKTVELGKRFFPRCSNVLDKIMD 523
          | : ||| :|: |||||||||||||||| |||:||:
Db    360 FRILEEHQSRLKALSKTVELGKRFFPRCSAVLDQIMN 396
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RESULT 11
US-08-996-685-14
; Sequence 14, Application US/08996685
; Patent No. 6031153
; GENERAL INFORMATION:
; APPLICANT: Ryals, John
; APPLICANT: Friedrich, Leslie
; APPLICANT: Uknes, Scott

```
;    APPLICANT:  Molina, Antonio
;    APPLICANT:  Ruess, Wilhelm
;    APPLICANT:  Knauf-Beiter, Gertrude
;    APPLICANT:  Kung, Ruth
;    APPLICANT:  Kessmann, Helmut
;    APPLICANT:  Oostendorp, Michael
;    TITLE OF INVENTION:  METHOD FOR PROTECTING PLANTS
;    NUMBER OF SEQUENCES:  32
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  No. 6031153artis Corporation
;      STREET:  3054 Cornwallis Road
;      CITY:  Research Triangle Park
;      STATE:  No. 6031153th Carolina
;      COUNTRY:  USA
;      ZIP:  27709
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/996,685
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/761,543
;      FILING DATE:  6-DEC-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/034,378
;      FILING DATE:  27-DEC-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/034,379
;      FILING DATE:  27-DEC-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/034,382
;      FILING DATE:  27-DEC-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/034,730
;      FILING DATE:  10-JAN-1997
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/035,021
;      FILING DATE:  10-JAN-1997
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/035,022
;      FILING DATE:  10-JAN-1997
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/035,024
;      FILING DATE:  10-JAN-1997
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/875,015
;      FILING DATE:  16-JUL-1997
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Meigs, J. Timothy
;      REGISTRATION NUMBER:  38,241
;      REFERENCE/DOCKET NUMBER:  PF/5-21215/P1/CGC1912
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (919) 541-8587
;      TELEFAX:  (919) 541-8689
;  INFORMATION FOR SEQ ID NO:  14:
;    SEQUENCE CHARACTERISTICS:
;     LENGTH: 397 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-996-685-14

  Query Match             35.7%;  Score 1052.5;  DB 3;  Length 397;
  Best Local Similarity   53.4%;  Pred. No. 5.3e-99;
  Matches  212;  Conservative   76;  Mismatches   98;  Indels   11;  Gaps    3;

Qy    131 VLDYLYSGRVGDLPKAACLCVDEDCAHVGCHPAVAFMAQVLFAASTFQVAELTNLFQRRL 190
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Db      7 VLAYVYSSRVRPPPKGVSECADENCCHVACRPAVDFMLEVLYLAFIFKIPELITLYQRHL 66

Qy    191 LDVLDKVEVDNLLLILSVANLCNKSCMKLLERCLDMVVRSNLDMITLEKSLPPDVIKQII 250
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Db     67 LDVVDKVVIEDTLVILKLANICGKACMKLLDRCKEIIVKSNVDMVSLEKSLPEELVKEII 126

Qy    251 DARLSLGLISPENKGFPNKHVRRIHRALDSDDVELVRMLLTEGQTNLDDAFALHYAVEHC 310
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Db    127 DRRKELGLEVPKVK----KHVSNVHKALDSDDIELVKLLLKEDHTNLDDACALHFAVAYC 182

Qy    311 DSKITTELLDLALADVNHRNPRGYTVLHIAARRREPKIIVSLLTKGARPADVTFDGRKAV 370
          : |  |:|| | |||||||||||||||:|| |:||::|:||| |||  :: | :|| |:
Db    183 NVKTATDLLKLDLADVNHRNPRGYTVLHVAAMRKEPQLILSLLEKGASASEATLEGRTAL 242

Qy    371 QISKRLTKQGDYFGVTEEGKPSPKDRLCIEILEQAERRDPQLGEASVSLAMAGESLRGRL 430
            |:|: |   :   : |: | | | |||:|||| ::|:   :   | |:| : |:  |
Db    243 MIAKQATMAVECNNIPEQCKHSLKGRLCVEILEQEDKREQIPRDVPPSFAVAADELKMTL 302

Qy    431 LYLENRVALARIMFPMEARVAMDIAQVDGTLEFNLGSGANPPPER----QRTTVDLNESP 486
          | |||||||: :|| ||: ||:||:: || || : |     |:|    :||:  :  :|
Db    303 LDLENRVALAQRLFPTEAQAAMEIAEMKGTCEFIVTS---LEPDRLTGTKRTSPGVKIAP 359

Qy    487 FIMKEEHLARMTALSKTVELGKRFFPRCSNVLDKIMD 523
          | : ||| :|: |||||||||||||||| |||:||:
Db    360 FRILEEHQSRLKALSKTVELGKRFFPRCSAVLDQIMN 396


RESULT 12
US-08-989-478-16
; Sequence 16, Application US/08989478
; Patent No. 5986082
;  GENERAL INFORMATION:
;    APPLICANT:  Uknes, Scott
;    APPLICANT:  Hunt, Michelle
;    APPLICANT:  Steiner, Henry-York
;    APPLICANT:  Ryals, John
;    TITLE OF INVENTION:  ALTERED FORMS OF THE NIM1 GENE CONFERRING
;    TITLE OF INVENTION:  DISEASE RESISTANCE IN PLANTS
;    NUMBER OF SEQUENCES:  32
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  No. 5986082artis Corporation
;      STREET:  3054 Cornwallis Road
;      CITY:  Research Triangle Park
;      STATE:  No. 5986082th Carolina
;      COUNTRY:  USA
;      ZIP:  27709
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/989,478
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/033,177
;      FILING DATE:  13-DEC-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/034,379
;      FILING DATE:  27-DEC-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/034,382
;      FILING DATE:  27-DEC-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/034,730
;      FILING DATE:  10-JAN-1997
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/035,021
;      FILING DATE:  10-JAN-1997
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/035,022
;      FILING DATE:  10-JAN-1997
;    ATTORNEY/AGENT INFORMATION:
```

; NAME: Meigs, J. Timothy
; REGISTRATION NUMBER: 38,241
; REFERENCE/DOCKET NUMBER: PF/5-21214/P1/CGC1911
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (919) 541-8587
; TELEFAX: (919) 541-8689
; INFORMATION FOR SEQ ID NO: 16:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 261 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-989-478-16

Query Match 25.4%; Score 751; DB 2; Length 261;
Best Local Similarity 54.6%; Pred. No. 1.8e-68;
Matches 142; Conservative 54; Mismatches 56; Indels 8; Gaps 2;

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Db     10 KLELKEI----AKDYEVGFDSVVTVLAYVYSSRVRPPPKGVSECADENCCHVACRPAVDF 65

Qy    167 MAQVLFAASTFQVAELTNLFQRRLLDVLDKVEVDNLLLILSVANLCNKSCMKLLERCLDM 226
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Db     66 MLEVLYLAFIFKIPELITLYQRHLLDVVDKVVIEDTLVILKLANICGKACMKLLDRCKEI 125

Qy    227 VVRSNLDMITLEKSLPPDVIKQIIDARLSLGLISPENKGFPNKHVRRIHRALDSDDVELV 286
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Db    126 IVKSNVDMVSLEKSLPEELVKEIIDRRKELGLEVPKVK----KHVSNVHKALDSDDIELV 181

Qy    287 RMLLTEGQTNLDDAFALHYAVEHCDSKITTELLDLALADVNHRNPRGYTVLHIAARRREP 346
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Db    182 KLLLKEDHTNLDDACALHFAVAYCNVKTATDLLKLDLADVNHRNPRGYTVLHVAAMRKEP 241

Qy    347 KIIVSLLTKGARPADVTFDG 366
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Db    242 QLILSLLEKGASASEATLEG 261
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RESULT 13
US-08-996-685-16
; Sequence 16, Application US/08996685
; Patent No. 6031153
; GENERAL INFORMATION:
; APPLICANT: Ryals, John
; APPLICANT: Friedrich, Leslie
; APPLICANT: Uknes, Scott
; APPLICANT: Molina, Antonio
; APPLICANT: Ruess, Wilhelm
; APPLICANT: Knauf-Beiter, Gertrude
; APPLICANT: Kung, Ruth
; APPLICANT: Kessmann, Helmut
; APPLICANT: Oostendorp, Michael
; TITLE OF INVENTION: METHOD FOR PROTECTING PLANTS
; NUMBER OF SEQUENCES: 32
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: No. 6031153artis Corporation
; STREET: 3054 Cornwallis Road
; CITY: Research Triangle Park
; STATE: No. 6031153th Carolina
; COUNTRY: USA
; ZIP: 27709
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/996,685
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/761,543
; FILING DATE: 6-DEC-1996
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/034,378
; FILING DATE: 27-DEC-1996
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/034,379
; FILING DATE: 27-DEC-1996
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/034,382
; FILING DATE: 27-DEC-1996
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/034,730
; FILING DATE: 10-JAN-1997
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/035,021
; FILING DATE: 10-JAN-1997
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/035,022
; FILING DATE: 10-JAN-1997
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/035,024
; FILING DATE: 10-JAN-1997
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/875,015
; FILING DATE: 16-JUL-1997
; ATTORNEY/AGENT INFORMATION:
; NAME: Meigs, J. Timothy
; REGISTRATION NUMBER: 38,241
; REFERENCE/DOCKET NUMBER: PF/5-21215/P1/CGC1912
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (919) 541-8587
; TELEFAX: (919) 541-8689
; INFORMATION FOR SEQ ID NO: 16:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 261 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-996-685-16

Query Match 25.4%; Score 751; DB 3; Length 261;
Best Local Similarity 54.6%; Pred. No. 1.8e-68;
Matches 142; Conservative 54; Mismatches 56; Indels 8; Gaps 2;

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Qy    107 RLELRELLGGGGEEVEVGYEALRLVLDYLYSGRVGDLPKAACLCVDEDCAHVGCHPAVAF 166
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Db     10 KLELKEI----AKDYEVGFDSVVTVLAYVYSSRVRPPPKGVSECADENCCHVACRPAVDF 65

Qy    167 MAQVLFAASTFQVAELTNLFQRRLLDVLDKVEVDNLLLILSVANLCNKSCMKLLERCLDM 226
          | :||: |  |:: ||  |:|| ||||:||| ::: |:|| :||:| |:|||||:|| ::
Db     66 MLEVLYLAFIFKIPELITLYQRHLLDVVDKVVIEDTLVILKLANICGKACMKLLDRCKEI 125

Qy    227 VVRSNLDMITLEKSLPPDVIKQIIDARLSLGLISPENKGFPNKHVRRIHRALDSDDVELV 286
          :|:||:||::|||||| :::|:||| |  ||| |: |    ||| :|:|||||:|||
Db    126 IVKSNVDMVSLEKSLPEELVKEIIDRRKELGLEVPKVK----KHVSNVHKALDSDDIELV 181

Qy    287 RMLLTEGQTNLDDAFALHYAVEHCDSKITTELLDLALADVNHRNPRGYTVLHIAARRREP 346
          ::|| |  |||||| |||:|| :|: |  |:|| | ||||||||||||||||:|| |:||
Db    182 KLLLKEDHTNLDDACALHFAVAYCNVKTATDLLKLDLADVNHRNPRGYTVLHVAAMRKEP 241

Qy    347 KIIVSLLTKGARPADVTFDG 366
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Db    242 QLILSLLEKGASASEATLEG 261
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RESULT 14
US-09-325-932A-197
; Sequence 197, Application US/09325932A
; Patent No. 6451604
; GENERAL INFORMATION:
; APPLICANT: Flinn, Barry
; APPLICANT: Lasham, Annette
; TITLE OF INVENTION: Compositions affecting programmed cell

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;  TITLE OF INVENTION:  death and their use in the modification of forestry plant develc
;  FILE REFERENCE:  1022
;  CURRENT APPLICATION NUMBER: US/09/325,932A
;  CURRENT FILING DATE:  1999-06-04
;  NUMBER OF SEQ ID NOS:  206
;  SOFTWARE:  FastSEQ for Windows Version 3.0
; SEQ ID NO 197
;   LENGTH: 143
;   TYPE: PRT
;   ORGANISM: Eucalyptus grandis
US-09-325-932A-197

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  Best Local Similarity   58.8%;  Pred. No. 4.6e-35;
  Matches   80;  Conservative   27;  Mismatches   29;  Indels    0;  Gaps    0;

Qy     269 KHVRRIHRALDSDDVELVRMLLTEGQTNLDDAFALHYAVEHCDSKITTELLDLALADVNH 328
           | ::|||:||||||:||| :||:|   |||:|: |||| :|| |: :||| | ||:||
Db       6 KRIKRIHKALDSDDIELVTLLLSESNINLDEAYGLHYAAAYCDPKVVSELLGLGLANVNL 65

Qy     329 RNPRGYTVLHIAARRREPKIIVSLLTKGARPADVTFDGRKAVQISKRLTKQGDYFGVTEE 388
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Db      66 RNPRGYTVLHVAAMRKETKIIVSLLSKGACASELTPDGQNAVSICRRLTRPKDYNAKTEQ 125

Qy     389 GKPSPKDRLCIEILEQ 404
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Db     126 CQEANKDRLCIDVLER 141


RESULT 15
US-09-325-932A-199
; Sequence 199, Application US/09325932A
; Patent No. 6451604
; GENERAL INFORMATION:
;  APPLICANT:  Flinn, Barry
;  APPLICANT:  Lasham, Annette
;  TITLE OF INVENTION:  Compositions affecting programmed cell
;  TITLE OF INVENTION:  death and their use in the modification of forestry plant develc
;  FILE REFERENCE:  1022
;  CURRENT APPLICATION NUMBER: US/09/325,932A
;  CURRENT FILING DATE:  1999-06-04
;  NUMBER OF SEQ ID NOS:  206
;  SOFTWARE:  FastSEQ for Windows Version 3.0
; SEQ ID NO 199
;   LENGTH: 102
;   TYPE: PRT
;   ORGANISM: Eucalyptus grandis
US-09-325-932A-199

  Query Match              6.8%;  Score 201;  DB 4;  Length 102;
  Best Local Similarity   37.5%;  Pred. No. 6.5e-13;
  Matches   42;  Conservative   23;  Mismatches   33;  Indels   14;  Gaps    3;

Qy      74 HRCVLSARSPFLRGVFARRAAAAAGGGGE---DGSERLELRELLGGGGEEVEVGYEALRL 130
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Db       1 HRCLLAARSQFLHEFFKQ-------GGGDNAREGKPRYPISDLVKKG----HVGCEAFKY 49

Qy     131 VLDYLYSGRVGDLPKAACLCVDEDCAHVGCHPAVAFMAQVLFAASTFQVAEL 182
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Db      50 VLRYMYTGKLKLFPAEVSTCVDSSCAHDVCGPAINYAVELMYASATFEIAEL 101


Search completed: January  3, 2003, 22:53:13
Job time : 23 secs
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GenCore version 5.1.3

OM protein - protein search, using sw model

Run on: January 3, 2003, 22:51:17 ; Search time 16 Seconds
(without alignments)
689.362 Million cell updates/sec

Title: US-09-294-539-4
Perfect score: 2952
Sequence: 1 MEPPTSHVTNAFSDSDSASV.....RSGLSSSSSSTSIGAIRPRR 582

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 117078 seqs, 18951520 residues

Total number of hits satisfying chosen parameters: 117078

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Published_Applications_AA:*
1: /cgn2_6/ptodata/1/pubpaa/US08_NEW_PUB.pep:*
2: /cgn2_6/ptodata/1/pubpaa/PCT_NEW_PUB.pep:*
3: /cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep:*
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5: /cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep:*
6: /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*
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10: /cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*
11: /cgn2_6/ptodata/1/pubpaa/US10_NEW_PUB.pep:*
12: /cgn2_6/ptodata/1/pubpaa/US10_PUBCOMB.pep:*
13: /cgn2_6/ptodata/1/pubpaa/US60_NEW_PUB.pep:*
14: /cgn2_6/ptodata/1/pubpaa/US60_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	1672.5	56.7	588	8	US-08-908-884-14	Sequence 14, Appl
2	1672.5	56.7	588	10	US-09-908-323-14	Sequence 14, Appl
3	1276	43.2	593	8	US-08-908-884-3	Sequence 3, Appli
4	1276	43.2	593	10	US-09-908-323-3	Sequence 3, Appli
5	1276	43.2	593	12	US-10-079-035-3	Sequence 3, Appli
6	1045.5	35.4	592	9	US-10-047-593-2	Sequence 2, Appli
7	1045.5	35.4	592	9	US-10-047-593-4	Sequence 4, Appli
8	168	5.7	49	8	US-08-908-884-4	Sequence 4, Appli
9	168	5.7	49	10	US-09-908-323-4	Sequence 4, Appli
10	122	4.1	41	12	US-10-079-035-4	Sequence 4, Appli
11	122	4.1	41	12	US-10-079-035-6	Sequence 6, Appli
12	122	4.1	41	12	US-10-079-035-8	Sequence 8, Appli
13	122	4.1	41	12	US-10-079-035-10	Sequence 10, Appl
14	121	4.1	33	8	US-08-908-884-8	Sequence 8, Appli
15	121	4.1	33	10	US-09-908-323-8	Sequence 8, Appli
16	119.5	4.0	359	9	US-09-844-988-2	Sequence 2, Appli
17	119.5	4.0	359	10	US-09-844-908-2	Sequence 2, Appli
18	114.5	3.9	1074	10	US-09-509-196A-2	Sequence 2, Appli
19	114	3.9	210	9	US-09-924-400-331	Sequence 331, App
20	114	3.9	210	10	US-09-810-936-331	Sequence 331, App
21	113	3.8	33	8	US-08-908-884-9	Sequence 9, Appli
22	113	3.8	33	10	US-09-908-323-9	Sequence 9, Appli
23	113	3.8	384	9	US-09-924-400-340	Sequence 340, App
24	112.5	3.8	329	10	US-09-880-192-62	Sequence 62, Appl
25	112.5	3.8	329	10	US-09-758-593A-1	Sequence 1, Appli
26	110.5	3.7	673	10	US-09-841-835-8	Sequence 8, Appli
27	110.5	3.7	1724	9	US-09-964-899-43	Sequence 43, Appl
28	110	3.7	292	9	US-09-924-400-315	Sequence 315, App
29	110	3.7	292	9	US-10-012-896-532	Sequence 532, App
30	110	3.7	292	9	US-09-895-793-532	Sequence 532, App
31	110	3.7	292	9	US-09-895-814-532	Sequence 532, App
32	110	3.7	292	10	US-09-825-301-4	Sequence 4, Appli
33	110	3.7	292	10	US-09-759-143-532	Sequence 532, App
34	110	3.7	292	10	US-09-780-669-532	Sequence 532, App
35	110	3.7	292	10	US-09-810-936-315	Sequence 315, App
36	110	3.7	292	10	US-09-822-827-532	Sequence 532, App
37	110	3.7	292	10	US-09-429-755-315	Sequence 315, App
38	110	3.7	329	9	US-09-924-400-299	Sequence 299, App
39	110	3.7	329	9	US-10-012-896-376	Sequence 376, App
40	110	3.7	329	9	US-09-895-793-376	Sequence 376, App
41	110	3.7	329	9	US-09-895-814-376	Sequence 376, App
42	110	3.7	329	10	US-09-825-301-2	Sequence 2, Appli
43	110	3.7	329	10	US-09-759-143-376	Sequence 376, App
44	110	3.7	329	10	US-09-780-669-376	Sequence 376, App
45	110	3.7	329	10	US-09-810-936-299	Sequence 299, App

ALIGNMENTS

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RESULT 1
US-08-908-884-14
; Sequence 14, Application US/08908884
; Patent No. US20020138872A1
; GENERAL INFORMATION:
;   APPLICANT: Dong et al.
;   TITLE OF INVENTION: ACQUIRED RESISTANCE GENES AND USES THEREOF
;   NUMBER OF SEQUENCES: 28
;   CORRESPONDENCE ADDRESS:
;     ADDRESSEE: Clark & Elbing LLP
;     STREET: 176 Federal Street
;     CITY: Boston
;     STATE: MA
;     COUNTRY: USA
;     ZIP: 02110
;   COMPUTER READABLE FORM:
;     MEDIUM TYPE: Diskette
;     COMPUTER: IBM Compatible
;     OPERATING SYSTEM: DOS
;     SOFTWARE: FastSEQ for Windows Version 2.0
;   CURRENT APPLICATION DATA:
;     APPLICATION NUMBER: US/08/908,884
;     FILING DATE:
;     CLASSIFICATION: 800
;   PRIOR APPLICATION DATA:
;     APPLICATION NUMBER: 60/023,851
;     FILING DATE: August 9, 1996
;     APPLICATION NUMBER: 60/035,166
;     FILING DATE: January 10, 1997
;     APPLICATION NUMBER: 60/046,769
;     FILING DATE: May 16, 1997
;   ATTORNEY/AGENT INFORMATION:
;     NAME: Elbing, Karen L
;     REGISTRATION NUMBER: 35,238
;     REFERENCE/DOCKET NUMBER: 00786/339004
;   TELECOMMUNICATION INFORMATION:
;     TELEPHONE: 617-428-0200
;     TELEFAX: 617-428-7045
; INFORMATION FOR SEQ ID NO: 14:
;   SEQUENCE CHARACTERISTICS:
;     LENGTH: 588 amino acids
;     TYPE: amino acid
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; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-908-884-14

Query Match 56.7%; Score 1672.5; DB 8; Length 588;
Best Local Similarity 56.8%; Pred. No. 4.2e-131;
Matches 336; Conservative 102; Mismatches 119; Indels 35; Gaps 8;

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Db       7 AFSDSNDISGSSSICCIGGGMTEFFSPETSPAEITSLKRLSETLESIFDASLPEFDYFAD 66

Qy      57 ARIAVPGGGGGGGDLRVHRCVLSARSPFLRGVFARRAAAAAGGGGEDGSERLELRELLGG 116
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Db      67 AKLVV---SGPCKEIPVHRCILSARSPFFKNLFC--------GKKEKNSSKVELKEVM-- 113

Qy     117 GGEEVEVGYEALRLVLDYLYSGRVGDLPKAACLCVDEDCAHVGCHPAVAFMAQVLFAAST 176
             :| || |:|:  || |||||:|   ||  |:||| ||:|| | |||||: :||: : |
Db     114 --KEHEVSYDAVMSVLAYLYSGKVRPSPKDVCVCVDNDCSHVACRPAVAFLVEVLYTSFT 171

Qy     177 FQVAELTNLFQRRLLDVLDKVEVDNLLLILSVANLCNKSCMKLLERCLDMVVRSNLDMIT 236
           ||::|| : ||| |||:||| |:::::|||||:| |:| :||  |::::|:||:|:||
Db     172 FQISELVDKFQRHLLDILDKTAADDVMMVLSVANICGKACERLLSSCIEIIVKSNVDIIT 231

Qy     237 LEKSLPPDVIKQIIDARLSLGLISPENKGFPNKHVRRIHRALDSDDVELVRMLLTEGQTN 296
           |:|:|| |::||| |:|  ||| ||: |||:|||:|||||||||||||::||| || |
Db     232 LDKALPHDIVKQITDSRAELGLQGPESNGFPDKHVKRIHRALDSDDVELLQMLLREGHTT 291

Qy     297 LDDAFALHYAVEHCDSKITTELLDLALADVNHRNPRGYTVLHIAARRREPKIIVSLLTKG 356
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Db     292 LDDAYALHYAVAYCDAKTTAELLDLALADINHQNSRGYTVLHVAAMRKEPKIVVSLLTKG 351

Qy     357 ARPADVTFDGRKAVQISKRLTKQGDYFGVTEEGKPSPKDRLCIEILEQAERRDPQLGEAS 416
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Db     352 ARPSDLTSDGRKALQIAKRLTRLVDFSKSPEEGKSASNDRLCIEILEQAERRDPLLGEAS 411

Qy     417 VSLAMAGESLRGRLLYLENRVALARIMFPMEARVAMDIAQVDGTLEFNLGSGANPPPERQ 476
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Db     412 VSLAMAGDDLRMKLLYLENRVGLAKLLFPMEAKVAMDIAQVDGTSEFPLASIGKKMANAQ 471

Qy     477 RTTVDLNESPFIMKEEHLARMTALSKTVELGKRFFPRCSNVLDKIM--DDETDPVSLGRD 534
           |||||||||:|| :|||||  |: |||:|||||||||||||| ||:|||  || ::   :| |
Db     472 RTTVDLNEAPFKIKEEHLNRLRALSRTVELGKRFFPRCSEVLNKIMDADDLSEIAYMGND 531

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Db     532 TAEERQLKKQRYMELQEILTKAFTEDKEEYDKTNNISSSCSSTSKGVDKPNK 583
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RESULT 2
US-09-908-323-14
; Sequence 14, Application US/09908323
; Patent No. US20020073447A1
; GENERAL INFORMATION:
; APPLICANT: Dong et al.
; TITLE OF INVENTION: ACQUIRED RESISTANCE GENES AND USES THEREOF
; NUMBER OF SEQUENCES: 28
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Clark & Elbing LLP
; STREET: 176 Federal Street
; CITY: Boston
; STATE: MA
; COUNTRY: USA
; ZIP: 02110
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: DOS
; SOFTWARE: FastSEQ for Windows Version 2.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/908,323
; FILING DATE: 17-Jul-2001
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/908,884
; FILING DATE: <Unknown>
; APPLICATION NUMBER: 60/035,166
; FILING DATE: January 10, 1997
; APPLICATION NUMBER: 60/046,769
; FILING DATE: May 16, 1997
; ATTORNEY/AGENT INFORMATION:
; NAME: Elbing, Karen L
; REGISTRATION NUMBER: 35,238
; REFERENCE/DOCKET NUMBER: 00786/339004
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 617-428-0200
; TELEFAX: 617-428-7045
; INFORMATION FOR SEQ ID NO: 14:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 588 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; SEQUENCE DESCRIPTION: SEQ ID NO: 14:
US-09-908-323-14

Query Match 56.7%; Score 1672.5; DB 10; Length 588;
Best Local Similarity 56.8%; Pred. No. 4.2e-131;
Matches 336; Conservative 102; Mismatches 119; Indels 35; Gaps 8;

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Qy      11 AFSDSDSASVEE----------GDADADADVEALRRLSDNLAAAF-RSPEDFAFLAD 56
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Db       7 AFSDSNDISGSSSICCIGGGMTEFFSPETSPAEITSLKRLSETLESIFDASLPEFDYFAD 66

Qy      57 ARIAVPGGGGGGGDLRVHRCVLSARSPFLRGVFARRAAAAAGGGGEDGSERLELRELLGG 116
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Db      67 AKLVV---SGPCKEIPVHRCILSARSPFFKNLFC--------GKKEKNSSKVELKEVM-- 113

Qy     117 GGEEVEVGYEALRLVLDYLYSGRVGDLPKAACLCVDEDCAHVGCHPAVAFMAQVLFAAST 176
             :| || |:|:  || |||||:|   ||  |:||| ||:|| | |||||: :||: : |
Db     114 --KEHEVSYDAVMSVLAYLYSGKVRPSPKDVCVCVDNDCSHVACRPAVAFLVEVLYTSFT 171

Qy     177 FQVAELTNLFQRRLLDVLDKVEVDNLLLILSVANLCNKSCMKLLERCLDMVVRSNLDMIT 236
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Db     172 FQISELVDKFQRHLLDILDKTAADDVMMVLSVANICGKACERLLSSCIEIIVKSNVDIIT 231

Qy     237 LEKSLPPDVIKQIIDARLSLGLISPENKGFPNKHVRRIHRALDSDDVELVRMLLTEGQTN 296
           |:|:|| |::||| |:|  ||| ||: |||:|||:|||||||||||||::||| || |
Db     232 LDKALPHDIVKQITDSRAELGLQGPESNGFPDKHVKRIHRALDSDDVELLQMLLREGHTT 291

Qy     297 LDDAFALHYAVEHCDSKITTELLDLALADVNHRNPRGYTVLHIAARRREPKIIVSLLTKG 356
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Db     352 ARPSDLTSDGRKALQIAKRLTRLVDFSKSPEEGKSASNDRLCIEILEQAERRDPLLGEAS 411

Qy     417 VSLAMAGESLRGRLLYLENRVALARIMFPMEARVAMDIAQVDGTLEFNLGSGANPPPERQ 476
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Db     412 VSLAMAGDDLRMKLLYLENRVGLAKLLFPMEAKVAMDIAQVDGTSEFPLASIGKKMANAQ 471

Qy     477 RTTVDLNESPFIMKEEHLARMTALSKTVELGKRFFPRCSNVLDKIM--DDETDPVSLGRD 534
           |||||||||:|| :|||||  |: |||:|||||||||||||| ||:|||  || ::   :| |
Db     472 RTTVDLNEAPFKIKEEHLNRLRALSRTVELGKRFFPRCSEVLNKIMDADDLSEIAYMGND 531

Qy     535 TSAE---KRKRFHDLQDVLQKAFHEDKEENDR-SGLSSSSSSTSIGAIRPRR 582
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Db     532 TAEERQLKKQRYMELQEILTKAFTEDKEEYDKTNNISSSCSSTSKGVDKPNK 583
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RESULT 3
US-08-908-884-3
; Sequence 3, Application US/08908884

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; Patent No. US20020138872A1
; GENERAL INFORMATION:
;   APPLICANT: Dong et al.
;   TITLE OF INVENTION: ACQUIRED RESISTANCE GENES AND USES THEREOF
;   NUMBER OF SEQUENCES: 28
;   CORRESPONDENCE ADDRESS:
;     ADDRESSEE: Clark & Elbing LLP
;     STREET: 176 Federal Street
;     CITY: Boston
;     STATE: MA
;     COUNTRY: USA
;     ZIP: 02110
;   COMPUTER READABLE FORM:
;     MEDIUM TYPE: Diskette
;     COMPUTER: IBM Compatible
;     OPERATING SYSTEM: DOS
;     SOFTWARE: FastSEQ for Windows Version 2.0
;   CURRENT APPLICATION DATA:
;     APPLICATION NUMBER: US/08/908,884
;     FILING DATE:
;     CLASSIFICATION: 800
;   PRIOR APPLICATION DATA:
;     APPLICATION NUMBER: 60/023,851
;     FILING DATE: August 9, 1996
;     APPLICATION NUMBER: 60/035,166
;     FILING DATE: January 10, 1997
;     APPLICATION NUMBER: 60/046,769
;     FILING DATE: May 16, 1997
;   ATTORNEY/AGENT INFORMATION:
;     NAME: Elbing, Karen L
;     REGISTRATION NUMBER: 35,238
;     REFERENCE/DOCKET NUMBER: 00786/339004
;   TELECOMMUNICATION INFORMATION:
;     TELEPHONE: 617-428-0200
;     TELEFAX: 617-428-7045
; INFORMATION FOR SEQ ID NO: 3:
;   SEQUENCE CHARACTERISTICS:
;     LENGTH: 593 amino acids
;     TYPE: amino acid
;     STRANDEDNESS: single
;     TOPOLOGY: linear
;   MOLECULE TYPE: protein
US-08-908-884-3

  Query Match             43.2%;  Score 1276;  DB 8;  Length 593;
  Best Local Similarity   47.2%;  Pred. No. 3.7e-98;
  Matches  273;  Conservative  113;  Mismatches  165;  Indels   28;  Gaps    9;

Qy       5 TSHVTNAFSDSDSASVEEGDADADADVEALRRLSDNLAAAFRSPEDFAFLADARIAVPGG 64
Db      17 TSFVATDNTDSSIVYLAAEQVLTGPDVSALQLLSNSFESVFDSPDD--FYSDAKLVL--- 71

Qy      65 GGGGGDLRVHRCVLSARSPFLRGVFARRAAAAAGGGGEDGSERLELRELLGGGGEEVEVG 124
Db      72 -SDGREVSFHRCVLSARSSFFKSALA--AAKKEKDSNNTAAVKLELKEI----AKDYEVG 124

Qy     125 YEALRLVLDYLYSGRVGDLPKAACLCVDEDCAHVGCHPAVAFMAQVLFAASTFQVAELTN 184
Db     125 FDSVVTVLAYVYSSRVRPPPKGVSECADENCCHVACRPAVDFMLEVLYLAFIFKIPELIT 184

Qy     185 LFQRRLLDVLDKVEVDNLLLILSVANLCNKSCMKLLERCLDMVVRSNLDMITLEKSLPPD 244
Db     185 LYQRHLLDVVDKVVIEDTLVILKLANICGKACMKLLDRCKEIIVKSNVDMVSLEKSLPEE 244

Qy     245 VIKQIIDARLSLGLISPENKGFPNKHVRRIHRALDSDDVELVRMLLTEGQTNLDDAFALH 304
Db     245 LVKEIIDRRKELGLEVPKVK----KHVSNVHKALDSDDIELVKLLLKEDHTNLDDACALH 300

Qy     305 YAVEHCDSKITTELLDLALADVNHRNPRGYTVLHIAARRREPKIIVSLLTKGARPADVTF 364
Db     301 FAVAYCNVKTATDLLKLDLADVNHRNPRGYTVLHVAAMRKEPQLILSLLEKGASASEATL 360

Qy     365 DGRKAVQISKRLTKQGDYFGVTEEGKPSPKDRLCIEILEQAERRDPQLGEASVSLAMAGE 424
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Db     361 EGRTALMIAKQATMAVECNNIPEQCKHSLKGRLCVEILEQEDKREQIPRDVPPSFAVAAD 420

Qy     425 SLRGRLLYLENRVALARIMFPMEARVAMDIAQVDGTLEFNLGSGANPPPER----QRTTV 480
Db     421 ELKMTLLDLENRVALAQRLFPTEAQAAMEIAEMKGTCEFIVTS---LEPDRLTGTKRTSP 477

Qy     481 DLNESPFIMKEEHLARMTALSKTVELGKRFFPRCSNVLDKIMD-DETDPVSLGRDTSAEK 539
Db     478 GVKIAPFRILEEHQSRLKALSKTVELGKRFFPRCSAVLDQIMNCEDLTQLACGEDDTAEK 537

Qy     540 R----KRFHDLQDVLQKAFHEDKEENDRSGLSSSSSSTS 574
Db     538 RLQKKQRYMEIQETLKKAFSEDNLELGNSSLTDSTSSTS 576


RESULT 4
US-09-908-323-3
; Sequence 3, Application US/09908323
; Patent No. US20020073447A1
;   GENERAL INFORMATION:
;        APPLICANT: Dong et al.
;        TITLE OF INVENTION: ACQUIRED RESISTANCE GENES AND USES THEREOF
;        NUMBER OF SEQUENCES: 28
;        CORRESPONDENCE ADDRESS:
;             ADDRESSEE: Clark & Elbing LLP
;             STREET: 176 Federal Street
;             CITY: Boston
;             STATE: MA
;             COUNTRY: USA
;             ZIP: 02110
;        COMPUTER READABLE FORM:
;             MEDIUM TYPE: Diskette
;             COMPUTER: IBM Compatible
;             OPERATING SYSTEM: DOS
;             SOFTWARE: FastSEQ for Windows Version 2.0
;        CURRENT APPLICATION DATA:
;             APPLICATION NUMBER: US/09/908,323
;             FILING DATE: 17-Jul-2001
;             CLASSIFICATION: <Unknown>
;        PRIOR APPLICATION DATA:
;             APPLICATION NUMBER: 08/908,884
;             FILING DATE: <Unknown>
;             APPLICATION NUMBER: 60/035,166
;             FILING DATE: January 10, 1997
;             APPLICATION NUMBER: 60/046,769
;             FILING DATE: May 16, 1997
;        ATTORNEY/AGENT INFORMATION:
;             NAME: Elbing, Karen L
;             REGISTRATION NUMBER: 35,238
;             REFERENCE/DOCKET NUMBER: 00786/339004
;        TELECOMMUNICATION INFORMATION:
;             TELEPHONE: 617-428-0200
;             TELEFAX: 617-428-7045
;   INFORMATION FOR SEQ ID NO: 3:
;        SEQUENCE CHARACTERISTICS:
;             LENGTH: 593 amino acids
;             TYPE: amino acid
;             STRANDEDNESS: single
;             TOPOLOGY: linear
;        MOLECULE TYPE: protein
;        SEQUENCE DESCRIPTION: SEQ ID NO: 3:
US-09-908-323-3

  Query Match             43.2%;  Score 1276;  DB 10;  Length 593;
  Best Local Similarity   47.2%;  Pred. No. 3.7e-98;
  Matches  273;  Conservative  113;  Mismatches  165;  Indels   28;  Gaps    9;

Qy       5 TSHVTNAFSDSDSASVEEGDADADADVEALRRLSDNLAAAFRSPEDFAFLADARIAVPGG 64
Db      17 TSFVATDNTDSSIVYLAAEQVLTGPDVSALQLLSNSFESVFDSPDD--FYSDAKLVL--- 71

Qy      65 GGGGGDLRVHRCVLSARSPFLRGVFARRAAAAAGGGGEDGSERLELRELLGGGGEEVEVG 124
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Db     72 -SDGREVSFHRCVLSARSSFFKSALA--AAKKEKDSNNTAAVKLELKEI----AKDYEVG 124

Qy    125 YEALRLVLDYLYSGRVGDLPKAACLCVDEDCAHVGCHPAVAFMAQVLFAASTFQVAELTN 184

Db    125 FDSVVTVLAYVYSSRVRPPPKGVSECADENCCHVACRPAVDFMLEVLYLAFIFKIPELIT 184

Qy    185 LFQRRLLDVLDKVEVDNLLLILSVANLCNKSCMKLLERCLDMVVRSNLDMITLEKSLPPD 244

Db    185 LYQRHLLDVVDKVVIEDTLVILKLANICGKACMKLLDRCKEIIVKSNVDMVSLEKSLPEE 244

Qy    245 VIKQIIDARLSLGLISPENKGFPNKHVRRIHRALDSDDVELVRMLLTEGQTNLDDAFALH 304

Db    245 LVKEIIDRRKELGLEVPKVK----KHVSNVHKALDSDDIELVKLLLKEDHTNLDDACALH 300

Qy    305 YAVEHCDSKITTELLDLALADVNHRNPRGYTVLHIAARRREPKIIVSLLTKGARPADVTF 364

Db    301 FAVAYCNVKTATDLLKLDLADVNHRNPRGYTVLHVAAMRKEPQLILSLLEKGASASEATL 360

Qy    365 DGRKAVQISKRLTKQGDYFGVTEEGKPSPKDRLCIEILEQAERRDPQLGEASVSLAMAGE 424

Db    361 EGRTALMIAKQATMAVECNNIPEQCKHSLKGRLCVEILEQEDKREQIPRDVPPSFAVAAD 420

Qy    425 SLRGRLLYLENRVALARIMFPMEARVAMDIAQVDGTLEFNLGSGANPPPER----QRTTV 480

Db    421 ELKMTLLDLENRVALAQRLFPTEAQAAMEIAEMKGTCEFIVTS---LEPDRLTGTKRTSP 477

Qy    481 DLNESPFIMKEEHLARMTALSKTVELGKRFFPRCSNVLDKIMD-DETDPVSLGRDTSAEK 539

Db    478 GVKIAPFRILEEHQSRLKALSKTVELGKRFFPRCSAVLDQIMNCEDLTQLACGEDDTAEK 537

Qy    540 R----KRFHDLQDVLQKAFHEDKEENDRSGLSSSSSSTS 574

Db    538 RLQKKQRYMEIQETLKKAFSEDNLELGNSSLTDSTSSTS 576


RESULT 5
US-10-079-035-3
; Sequence 3, Application US/10079035
; Patent No. US20020152499A1
; GENERAL INFORMATION:
;   APPLICANT:  Ryals, John
;   APPLICANT:  Delaney, Terry
;   APPLICANT:  Friedrich, Leslie
;   APPLICANT:  Weymann, Kristianna
;   APPLICANT:  Lawton, Kay
;   APPLICANT:  Ellis, Daniel
;   APPLICANT:  Uknes, Scott
;   APPLICANT:  Jesse, Taco
;   APPLICANT:  Vos, Pieter
;   TITLE OF INVENTION:  GENE ENCODING A PROTEIN INVOLVED IN THE
;   TITLE OF INVENTION:  SIGNAL TRANSDUCTION CASCADE LEADING TO SYSTEMIC ACQUIRED RESIS
;   TITLE OF INVENTION:  IN PLANTS
;   NUMBER OF SEQUENCES:  17
;   CORRESPONDENCE ADDRESS:
;     ADDRESSEE:  No. US20020152499A1artis Corporation
;     STREET:  520 White Plains Road, P.O. Box 2005
;     CITY:  Tarrytown
;     STATE:  New York
;     COUNTRY:  USA
;     ZIP:  10591
;   COMPUTER READABLE FORM:
;     MEDIUM TYPE:  Floppy disk
;     COMPUTER:  IBM PC compatible
;     OPERATING SYSTEM:  PC-DOS/MS-DOS
;     SOFTWARE:  PatentIn Release #1.0, Version #1.30
;   CURRENT APPLICATION DATA:
;     APPLICATION NUMBER:  US/10/079,035
;     FILING DATE:
;     CLASSIFICATION:
;   PRIOR APPLICATION DATA:
;     APPLICATION NUMBER:  09/577,799
;     FILING DATE:
;     APPLICATION NUMBER:  08/880,179
;     FILING DATE:
;   ATTORNEY/AGENT INFORMATION:
;     NAME:  Meigs, J. Timothy
;     REGISTRATION NUMBER:  38,241
;     REFERENCE/DOCKET NUMBER:  CGC 1909
;   TELECOMMUNICATION INFORMATION:
;     TELEPHONE:  (919) 541-8587
;     TELEFAX:  (919) 541-8689
; INFORMATION FOR SEQ ID NO:  3:
;   SEQUENCE CHARACTERISTICS:
;    LENGTH: 593 amino acids
;     TYPE:  amino acid
;     TOPOLOGY:  linear
;   MOLECULE TYPE:  protein
US-10-079-035-3

  Query Match             43.2%;  Score 1276;  DB 12;  Length 593;
  Best Local Similarity   47.2%;  Pred. No. 3.7e-98;
  Matches  273;  Conservative  113;  Mismatches  165;  Indels   28;  Gaps    9;

Qy      5 TSHVTNAFSDSDSASVEEGDADADADVEALRRLSDNLAAAFRSPEDFAFLADARIAVPGG 64

Db     17 TSFVATDNTDSSIVYLAAEQVLTGPDVSALQLLSNSFESVFDSPDD--FYSDAKLVL--- 71

Qy     65 GGGGGDLRVHRCVLSARSPFLRGVFARRAAAAAGGGGEDGSERLELRELLGGGGEEVEVG 124

Db     72 -SDGREVSFHRCVLSARSSFFKSALA--AAKKEKDSNNTAAVKLELKEI----AKDYEVG 124

Qy    125 YEALRLVLDYLYSGRVGDLPKAACLCVDEDCAHVGCHPAVAFMAQVLFAASTFQVAELTN 184

Db    125 FDSVVTVLAYVYSSRVRPPPKGVSECADENCCHVACRPAVDFMLEVLYLAFIFKIPELIT 184

Qy    185 LFQRRLLDVLDKVEVDNLLLILSVANLCNKSCMKLLERCLDMVVRSNLDMITLEKSLPPD 244

Db    185 LYQRHLLDVVDKVVIEDTLVILKLANICGKACMKLLDRCKEIIVKSNVDMVSLEKSLPEE 244

Qy    245 VIKQIIDARLSLGLISPENKGFPNKHVRRIHRALDSDDVELVRMLLTEGQTNLDDAFALH 304

Db    245 LVKEIIDRRKELGLEVPKVK----KHVSNVHKALDSDDIELVKLLLKEDHTNLDDACALH 300

Qy    305 YAVEHCDSKITTELLDLALADVNHRNPRGYTVLHIAARRREPKIIVSLLTKGARPADVTF 364

Db    301 FAVAYCNVKTATDLLKLDLADVNHRNPRGYTVLHVAAMRKEPQLILSLLEKGASASEATL 360

Qy    365 DGRKAVQISKRLTKQGDYFGVTEEGKPSPKDRLCIEILEQAERRDPQLGEASVSLAMAGE 424

Db    361 EGRTALMIAKQATMAVECNNIPEQCKHSLKGRLCVEILEQEDKREQIPRDVPPSFAVAAD 420

Qy    425 SLRGRLLYLENRVALARIMFPMEARVAMDIAQVDGTLEFNLGSGANPPPER----QRTTV 480

Db    421 ELKMTLLDLENRVALAQRLFPTEAQAAMEIAEMKGTCEFIVTS---LEPDRLTGTKRTSP 477

Qy    481 DLNESPFIMKEEHLARMTALSKTVELGKRFFPRCSNVLDKIMD-DETDPVSLGRDTSAEK 539

Db    478 GVKIAPFRILEEHQSRLKALSKTVELGKRFFPRCSAVLDQIMNCEDLTQLACGEDDTAEK 537

Qy    540 R----KRFHDLQDVLQKAFHEDKEENDRSGLSSSSSSTS 574

Db    538 RLQKKQRYMEIQETLKKAFSEDNLELGNSSLTDSTSSTS 576


RESULT 6
US-10-047-593-2
; Sequence 2, Application US/10047593
; Patent No. US20020170094A1
; GENERAL INFORMATION:
;  APPLICANT: Crane, Edmund H. III
;  APPLICANT:  Rice, Douglas A.
;  TITLE OF INVENTION: Maize NPR1 Polynucleotides and Methods
;  TITLE OF INVENTION:  of Use
;  FILE REFERENCE: 1090D2
;  CURRENT APPLICATION NUMBER: US/10/047,593
```

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;  CURRENT FILING DATE:  2002-01-15
;  PRIOR APPLICATION NUMBER: 60/130,692
;  PRIOR FILING DATE: 1999-04-23
;  PRIOR APPLICATION NUMBER: 09/551,778
;  PRIOR FILING DATE: 2000-04-18
;  NUMBER OF SEQ ID NOS: 6
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 2
;   LENGTH: 621
;   TYPE: PRT
;   ORGANISM: Zea mays
US-10-047-593-2

  Query Match             35.4%;  Score 1045.5;  DB 9;  Length 592;
  Best Local Similarity   43.2%;  Pred. No. 5.2e-79;
  Matches  239;  Conservative   92;  Mismatches  187;  Indels   35;  Gaps   10;

Qy      25 ADADADVEA--LRRLSDNLAAAFRSPEDFAFLADARIAVPGGGGGGGDLRVHRCVLSARS 82
           |  :   |||  |  |||  ||       |:     :|| : ||    ||  : :|||:|:|||
Db      51 AGSGGSVEAVSLNRLSKNLERLLLDPD--LDCSDADVDVP---DGGPPVPIHRCILAARS 105

Qy      83 PFLRGVFARR---------AAAAAG---GGGEDGSERLELRELLGGGGEEVEVGYEALRL 130
           |   :|| |          ||| ||    |   |  | :: :|:  |     || || :
Db     106 DFFYDLFAARGRAGAARGDAAAGAGVAAEGAASGRPRYKMEDLVPAG----RVGREAFQA 161

Qy     131 VLDYLYSGRVGDLPKAACLCVDEDCAHVGCHPAVAFMAQVLFAASTFQVAELTNLFQRRL 190
           | |||:|::   |     | |  | |  | ||:    ::::|| ||:: |||:||||||
Db     162 FLGYLYTGKLRPAPVDVVSCADPVCHHDSCPPAIRSAVELMYAACTFKIPELTSLFQRRL 221

Qy     191 LDVLDKVEVDNLLLILSVANLCNKSCMKLLERCLDMVVRSNLDMITLEKSLPPDVIKQII 250
           |: :||  |:::: || ||:  :    :::::|:  : ||:|| |:|:| |||: : :|
Db     222 LNFVDKTLVEDVIPILEVAS--HSGLTQVIDKCIQRIARSDLDDISLDKELPPEAVDEIK 279

Qy     251 DARLSLGLISPE---NKGFPNKHVRRIHRALDSDDVELVRMLLTEGQTNLDDAFALHYAV 307
           : |       :   :     | ||||||||||||||||:|| |    |||| |||||
Db     280 NLRKKSQTADGDTFISDPVHEKRVRRIHRALDSDDVELVKLLLNESDITLDDANALHYAA 339

Qy     308 EHCDSKITTELLDLALADVNHRNPRGYTVLHIAARRREPKIIVSLLTKGARPADVTFDGR 367
           :|| |: :|||||:|:|: :| |||| ||:|| |||| ||: || |||  : :| |||
Db     340 SYCDPKVVSELLDLAMANLNLKNSRGYTALHLAAMRREPAIIMCLLNKGANVSQLTADGR 399

Qy     368 KAVQISKRLTKQGDYFGVTEEGKPSPKDRLCIEILEQAERRDPQLGEASVSLAMAGESLR 427
           |: | :|||:  ||    |:|: | ||||||:|||:   |:|   | :|:  :  : |
Db     400 SAIGICRRLTRAKDYNTKMEQGQESNKDRLCIDILEREMMRNPMAVEDAVTSPLLADDLH 459

Qy     428 GRLLYLENRVALARIMFPMEARVAMDIAQVDGTLEFNLGSGANPPPERQRTTVDLNESPF 487
           :|||||||| ||: || ||:||| ||| | | ||           :   |||||:|
Db     460 MKLLYLENRVAFARLFFPAEAKVAMQIAQADTTEEFGGIVAVAASTSGKLREVDLNETPV 519

Qy     488 IMKEEHLARMTALSKTVELGKRFFPRCSNVLDKIMDDE----TDPVSLGRDTSAE---KR 540
              :   :|: || ||||||:|:|| || |||| ::|:     |   | | |: |   ||
Db     520 TQNKRLRSRVDALMKTVELGRRYFPNCSQVLDKFLEDDLPEGLDQFYLQRGTADEQKVKR 579

Qy     541 KRFHDLQDVLQKA 553
           || :|:: : ||
Db     580 MRFCELKEDVLKA 592


RESULT 7
US-10-047-593-4
; Sequence 4, Application US/10047593
; Patent No. US20020170094A1
; GENERAL INFORMATION:
;  APPLICANT: Crane, Edmund H. III
;  APPLICANT:  Rice, Douglas A.
;  TITLE OF INVENTION: Maize NPR1 Polynucleotides and Methods
;  TITLE OF INVENTION:  of Use
;  FILE REFERENCE: 1090D2
;  CURRENT APPLICATION NUMBER: US/10/047,593
;  CURRENT FILING DATE:  2002-01-15
;  PRIOR APPLICATION NUMBER: 60/130,692
;  PRIOR FILING DATE: 1999-04-23
;  PRIOR APPLICATION NUMBER: 09/551,778
;  PRIOR FILING DATE: 2000-04-18
;  NUMBER OF SEQ ID NOS: 6
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 4
;   LENGTH: 621
;   TYPE: PRT
;   ORGANISM: Zea mays
US-10-047-593-4

  Query Match             35.4%;  Score 1045.5;  DB 9;  Length 592;
  Best Local Similarity   43.2%;  Pred. No. 5.2e-79;
  Matches  239;  Conservative   92;  Mismatches  187;  Indels   35;  Gaps   10;

Qy      25 ADADADVEA--LRRLSDNLAAAFRSPEDFAFLADARIAVPGGGGGGGDLRVHRCVLSARS 82
           |  :   |||  |  |||  ||       |:     :|| : ||    ||  : :|||:|:|||
Db      51 AGSGGSVEAVSLNRLSKNLERLLLDPD--LDCSDADVDVP---DGGPPVPIHRCILAARS 105

Qy      83 PFLRGVFARR---------AAAAAG---GGGEDGSERLELRELLGGGGEEVEVGYEALRL 130
           |   :|| |          ||| ||    |   |  | :: :|:  |     || || :
Db     106 DFFYDLFAARGRAGAARGDAAAGAGVAAEGAASGRPRYKMEDLVPAG----RVGREAFQA 161

Qy     131 VLDYLYSGRVGDLPKAACLCVDEDCAHVGCHPAVAFMAQVLFAASTFQVAELTNLFQRRL 190
           | |||:|::   |     | |  | |  | ||:    ::::|| ||:: |||:||||||
Db     162 FLGYLYTGKLRPAPVDVVSCADPVCHHDSCPPAIRSAVELMYAACTFKIPELTSLFQRRL 221

Qy     191 LDVLDKVEVDNLLLILSVANLCNKSCMKLLERCLDMVVRSNLDMITLEKSLPPDVIKQII 250
           |: :||  |:::: || ||:  :    :::::|:  : ||:|| |:|:| |||: : :|
Db     222 LNFVDKTLVEDVIPILEVAS--HSGLTQVIDKCIQRIARSDLDDISLDKELPPEAVDEIK 279

Qy     251 DARLSLGLISPE---NKGFPNKHVRRIHRALDSDDVELVRMLLTEGQTNLDDAFALHYAV 307
           : |       :   :     | ||||||||||||||||:|| |    |||| |||||
Db     280 NLRKKSQTADGDTFISDPVHEKRVRRIHRALDSDDVELVKLLLNESDITLDDANALHYAA 339

Qy     308 EHCDSKITTELLDLALADVNHRNPRGYTVLHIAARRREPKIIVSLLTKGARPADVTFDGR 367
           :|| |: :|||||:|:|: :| |||| ||:|| |||| ||: || |||  : :| |||
Db     340 SYCDPKVVSELLDLAMANLNLKNSRGYTALHLAAMRREPAIIMCLLNKGANVSQLTADGR 399

Qy     368 KAVQISKRLTKQGDYFGVTEEGKPSPKDRLCIEILEQAERRDPQLGEASVSLAMAGESLR 427
           |: | :|||:  ||    |:|: | ||||||:|||:   |:|   | :|:  :  : |
Db     400 SAIGICRRLTRAKDYNTKMEQGQESNKDRLCIDILEREMMRNPMAVEDAVTSPLLADDLH 459

Qy     428 GRLLYLENRVALARIMFPMEARVAMDIAQVDGTLEFNLGSGANPPPERQRTTVDLNESPF 487
           :|||||||| ||: || ||:||| ||| | | ||           :   |||||:|
Db     460 MKLLYLENRVAFARLFFPAEAKVAMQIAQADTTEEFGGIVAVAASTSGKLREVDLNETPV 519

Qy     488 IMKEEHLARMTALSKTVELGKRFFPRCSNVLDKIMDDE----TDPVSLGRDTSAE---KR 540
              :   :|: || ||||||:|:|| || |||| ::|:     |   | | |: |   ||
Db     520 TQNKRLRSRVDALMKTVELGRRYFPNCSQVLDKFLEDDLPEGLDQFYLQRGTADEQKVKR 579

Qy     541 KRFHDLQDVLQKA 553
           || :|:: : ||
Db     580 MRFCELKEDVLKA 592


RESULT 8
US-08-908-884-4
; Sequence 4, Application US/08908884
; Patent No. US20020138872A1
;  GENERAL INFORMATION:
;    APPLICANT:  Dong et al.
;    TITLE OF INVENTION:  ACQUIRED RESISTANCE GENES AND USES THEREOF
;    NUMBER OF SEQUENCES:  28
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Clark & Elbing LLP
;      STREET:  176 Federal Street
;      CITY:  Boston
;      STATE:  MA
;      COUNTRY:  USA
;      ZIP:  02110
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Diskette
;      COMPUTER:  IBM Compatible
;      OPERATING SYSTEM:  DOS
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;      SOFTWARE:  FastSEQ for Windows Version 2.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/908,884
;      FILING DATE:
;      CLASSIFICATION:  800
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  60/023,851
;      FILING DATE:  August 9, 1996
;      APPLICATION NUMBER:  60/035,166
;      FILING DATE:  January 10, 1997
;      APPLICATION NUMBER:  60/046,769
;      FILING DATE:  May 16, 1997
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Elbing, Karen L
;      REGISTRATION NUMBER:  35,238
;      REFERENCE/DOCKET NUMBER:  00786/339004
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  617-428-0200
;      TELEFAX:  617-428-7045
;  INFORMATION FOR SEQ ID NO:  4:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  49 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-908-884-4

  Query Match             5.7%;  Score 168;  DB 8;  Length 49;
  Best Local Similarity   61.2%;  Pred. No. 1.2e-07;
  Matches   30;  Conservative   11;  Mismatches    8;  Indels    0;  Gaps    0;

Qy     327 NHRNPRGYTVLHIAARRREPKIIVSLLTKGARPADVTFDGRKAVQISKR 375
           ||||||||||||:|| |:||::|:||| |||  :: | :|| |: |:|:
Db       1 NHRNPRGYTVLHVAAMRKEPQLILSLLEKGASASEATLEGRTALMIAKQ 49


RESULT 9
US-09-908-323-4
; Sequence 4, Application US/09908323
; Patent No. US20020073447A1
;  GENERAL INFORMATION:
;       APPLICANT: Dong et al.
;       TITLE OF INVENTION: ACQUIRED RESISTANCE GENES AND USES THEREOF
;       NUMBER OF SEQUENCES: 28
;       CORRESPONDENCE ADDRESS:
;            ADDRESSEE: Clark & Elbing LLP
;            STREET: 176 Federal Street
;            CITY: Boston
;            STATE: MA
;            COUNTRY: USA
;            ZIP: 02110
;       COMPUTER READABLE FORM:
;            MEDIUM TYPE: Diskette
;            COMPUTER: IBM Compatible
;            OPERATING SYSTEM: DOS
;            SOFTWARE: FastSEQ for Windows Version 2.0
;       CURRENT APPLICATION DATA:
;            APPLICATION NUMBER: US/09/908,323
;            FILING DATE: 17-Jul-2001
;            CLASSIFICATION: <Unknown>
;       PRIOR APPLICATION DATA:
;            APPLICATION NUMBER: 08/908,884
;            FILING DATE: <Unknown>
;            APPLICATION NUMBER: 60/035,166
;            FILING DATE: January 10, 1997
;            APPLICATION NUMBER: 60/046,769
;            FILING DATE: May 16, 1997
;       ATTORNEY/AGENT INFORMATION:
;            NAME: Elbing, Karen L
;            REGISTRATION NUMBER: 35,238
;            REFERENCE/DOCKET NUMBER: 00786/339004
;       TELECOMMUNICATION INFORMATION:
;            TELEPHONE: 617-428-0200
;            TELEFAX: 617-428-7045
;  INFORMATION FOR SEQ ID NO: 4:
;       SEQUENCE CHARACTERISTICS:
;            LENGTH: 49 amino acids
;            TYPE: amino acid
;            STRANDEDNESS: single
;            TOPOLOGY: linear
;       MOLECULE TYPE: protein
;       SEQUENCE DESCRIPTION: SEQ ID NO: 4:
US-09-908-323-4

  Query Match             5.7%;  Score 168;  DB 10;  Length 49;
  Best Local Similarity   61.2%;  Pred. No. 1.2e-07;
  Matches   30;  Conservative   11;  Mismatches    8;  Indels    0;  Gaps    0;

Qy     327 NHRNPRGYTVLHIAARRREPKIIVSLLTKGARPADVTFDGRKAVQISKR 375
           ||||||||||||:|| |:||::|:||| |||  :: | :|| |: |:|:
Db       1 NHRNPRGYTVLHVAAMRKEPQLILSLLEKGASASEATLEGRTALMIAKQ 49


RESULT 10
US-10-079-035-4
; Sequence 4, Application US/10079035
; Patent No. US20020152499A1
;  GENERAL INFORMATION:
;    APPLICANT:  Ryals, John
;    APPLICANT:  Delaney, Terry
;    APPLICANT:  Friedrich, Leslie
;    APPLICANT:  Weymann, Kristianna
;    APPLICANT:  Lawton, Kay
;    APPLICANT:  Ellis, Daniel
;    APPLICANT:  Uknes, Scott
;    APPLICANT:  Jesse, Taco
;    APPLICANT:  Vos, Pieter
;    TITLE OF INVENTION:  GENE ENCODING A PROTEIN INVOLVED IN THE
;    TITLE OF INVENTION:  SIGNAL TRANSDUCTION CASCADE LEADING TO SYSTEMIC ACQUIRED RE
;    TITLE OF INVENTION:  IN PLANTS
;    NUMBER OF SEQUENCES:  17
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  No. US20020152499A1artis Corporation
;      STREET:  520 White Plains Road, P.O. Box 2005
;      CITY:  Tarrytown
;      STATE:  New York
;      COUNTRY:  USA
;      ZIP:  10591
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/10/079,035
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  09/577,799
;      FILING DATE:
;      APPLICATION NUMBER:  08/880,179
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Meigs, J. Timothy
;      REGISTRATION NUMBER:  38,241
;      REFERENCE/DOCKET NUMBER:  CGC 1909
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (919) 541-8587
;      TELEFAX:  (919) 541-8689
;  INFORMATION FOR SEQ ID NO:  4:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  41 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  not relevant
;      TOPOLOGY:  not relevant
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;    MOLECULE TYPE:  peptide
US-10-079-035-4

  Query Match             4.1%;  Score 122;  DB 12;  Length 41;
  Best Local Similarity   51.2%;  Pred. No. 0.0006;
  Matches   21;  Conservative   12;  Mismatches    8;  Indels    0;  Gaps    0;

Qy    271 VRRIHRALDSDDVELVRMLLTEGQTNLDDAFALHYAVEHCD 311
          :||: |||| |:|||::::     :|||| |:||||:||:
Db      1 IRRMRRALDAADIELVKLMVMGEGLDLDDALAVHYAVQHCN 41


RESULT 11
US-10-079-035-6
; Sequence 6, Application US/10079035
; Patent No. US20020152499A1
;  GENERAL INFORMATION:
;    APPLICANT:  Ryals, John
;    APPLICANT:  Delaney, Terry
;    APPLICANT:  Friedrich, Leslie
;    APPLICANT:  Weymann, Kristianna
;    APPLICANT:  Lawton, Kay
;    APPLICANT:  Ellis, Daniel
;    APPLICANT:  Uknes, Scott
;    APPLICANT:  Jesse, Taco
;    APPLICANT:  Vos, Pieter
;    TITLE OF INVENTION:  GENE ENCODING A PROTEIN INVOLVED IN THE
;    TITLE OF INVENTION:  SIGNAL TRANSDUCTION CASCADE LEADING TO SYSTEMIC ACQUIRED RESIS
;    TITLE OF INVENTION:  IN PLANTS
;    NUMBER OF SEQUENCES:  17
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  No. US20020152499A1artis Corporation
;      STREET:  520 White Plains Road, P.O. Box 2005
;      CITY:  Tarrytown
;      STATE:  New York
;      COUNTRY:  USA
;      ZIP:  10591
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/10/079,035
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  09/577,799
;      FILING DATE:
;      APPLICATION NUMBER:  08/880,179
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Meigs, J. Timothy
;      REGISTRATION NUMBER:  38,241
;      REFERENCE/DOCKET NUMBER:  CGC 1909
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (919) 541-8587
;      TELEFAX:  (919) 541-8689
;  INFORMATION FOR SEQ ID NO:  6:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  41 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  not relevant
;      TOPOLOGY:  not relevant
;    MOLECULE TYPE:  peptide
US-10-079-035-6

  Query Match             4.1%;  Score 122;  DB 12;  Length 41;
  Best Local Similarity   51.2%;  Pred. No. 0.0006;
  Matches   21;  Conservative   12;  Mismatches    8;  Indels    0;  Gaps    0;

Qy    271 VRRIHRALDSDDVELVRMLLTEGQTNLDDAFALHYAVEHCD 311
          :||: |||| |:|||::::     :|||| |:||||:||:
Db      1 IRRMRRALDAADIELVKLMVMGEGLDLDDALAVHYAVQHCN 41


RESULT 12
US-10-079-035-8
; Sequence 8, Application US/10079035
; Patent No. US20020152499A1
;  GENERAL INFORMATION:
;    APPLICANT:  Ryals, John
;    APPLICANT:  Delaney, Terry
;    APPLICANT:  Friedrich, Leslie
;    APPLICANT:  Weymann, Kristianna
;    APPLICANT:  Lawton, Kay
;    APPLICANT:  Ellis, Daniel
;    APPLICANT:  Uknes, Scott
;    APPLICANT:  Jesse, Taco
;    APPLICANT:  Vos, Pieter
;    TITLE OF INVENTION:  GENE ENCODING A PROTEIN INVOLVED IN THE
;    TITLE OF INVENTION:  SIGNAL TRANSDUCTION CASCADE LEADING TO SYSTEMIC ACQUIRED RE
;    TITLE OF INVENTION:  IN PLANTS
;    NUMBER OF SEQUENCES:  17
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  No. US20020152499A1artis Corporation
;      STREET:  520 White Plains Road, P.O. Box 2005
;      CITY:  Tarrytown
;      STATE:  New York
;      COUNTRY:  USA
;      ZIP:  10591
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/10/079,035
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  09/577,799
;      FILING DATE:
;      APPLICATION NUMBER:  08/880,179
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Meigs, J. Timothy
;      REGISTRATION NUMBER:  38,241
;      REFERENCE/DOCKET NUMBER:  CGC 1909
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (919) 541-8587
;      TELEFAX:  (919) 541-8689
;  INFORMATION FOR SEQ ID NO:  8:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  41 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  not relevant
;      TOPOLOGY:  not relevant
;    MOLECULE TYPE:  peptide
US-10-079-035-8

  Query Match             4.1%;  Score 122;  DB 12;  Length 41;
  Best Local Similarity   51.2%;  Pred. No. 0.0006;
  Matches   21;  Conservative   12;  Mismatches    8;  Indels    0;  Gaps    0;

Qy    271 VRRIHRALDSDDVELVRMLLTEGQTNLDDAFALHYAVEHCD 311
          :||: |||| |:|||::::     :|||| |:||||:||:
Db      1 IRRMRRALDAADIELVKLMVMGEGLDLDDALAVHYAVQHCN 41


RESULT 13
US-10-079-035-10
; Sequence 10, Application US/10079035
; Patent No. US20020152499A1
;  GENERAL INFORMATION:
;    APPLICANT:  Ryals, John
```

```
;    APPLICANT:  Delaney, Terry
;    APPLICANT:  Friedrich, Leslie
;    APPLICANT:  Weymann, Kristianna
;    APPLICANT:  Lawton, Kay
;    APPLICANT:  Ellis, Daniel
;    APPLICANT:  Uknes, Scott
;    APPLICANT:  Jesse, Taco
;    APPLICANT:  Vos, Pieter
;    TITLE OF INVENTION:  GENE ENCODING A PROTEIN INVOLVED IN THE
;    TITLE OF INVENTION:  SIGNAL TRANSDUCTION CASCADE LEADING TO SYSTEMIC ACQUIRED RESIS
;    TITLE OF INVENTION:  IN PLANTS
;    NUMBER OF SEQUENCES:  17
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  No. US20020152499A1artis Corporation
;      STREET:  520 White Plains Road, P.O. Box 2005
;      CITY:  Tarrytown
;      STATE:  New York
;      COUNTRY:  USA
;      ZIP:  10591
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/10/079,035
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  09/577,799
;      FILING DATE:
;      APPLICATION NUMBER:  08/880,179
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Meigs, J. Timothy
;      REGISTRATION NUMBER:  38,241
;      REFERENCE/DOCKET NUMBER:  CGC 1909
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (919) 541-8587
;      TELEFAX:  (919) 541-8689
;  INFORMATION FOR SEQ ID NO:  10:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  41 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  not relevant
;      TOPOLOGY:  not relevant
;    MOLECULE TYPE:  peptide
US-10-079-035-10

 Query Match             4.1%;  Score 122;  DB 12;  Length 41;
 Best Local Similarity   51.2%;  Pred. No. 0.0006;
 Matches   21;  Conservative   12;  Mismatches    8;  Indels    0;  Gaps    0;

Qy     271 VRRIHRALDSDDVELVRMLLTEGQTNLDDAFALHYAVEHCD 311
           :||: |||| |:|||:::     :|||| |:|||:||:
Db       1 IRRMRRALDAADIELVKLMVMGEGLDLDDALAVHYAVQHCN 41


RESULT 14
US-08-908-884-8
; Sequence 8, Application US/08908884
; Patent No. US20020138872A1
;  GENERAL INFORMATION:
;    APPLICANT:  Dong et al.
;    TITLE OF INVENTION:  ACQUIRED RESISTANCE GENES AND USES THEREOF
;    NUMBER OF SEQUENCES:  28
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Clark & Elbing LLP
;      STREET:  176 Federal Street
;      CITY:  Boston
;      STATE:  MA
;      COUNTRY:  USA
;      ZIP:  02110
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Diskette
;      COMPUTER:  IBM Compatible
;      OPERATING SYSTEM:  DOS
;      SOFTWARE:  FastSEQ for Windows Version 2.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/908,884
;      FILING DATE:
;      CLASSIFICATION:  800
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  60/023,851
;      FILING DATE:  August 9, 1996
;      APPLICATION NUMBER:  60/035,166
;      FILING DATE:  January 10, 1997
;      APPLICATION NUMBER:  60/046,769
;      FILING DATE:  May 16, 1997
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Elbing, Karen L
;      REGISTRATION NUMBER:  35,238
;      REFERENCE/DOCKET NUMBER:  00786/339004
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  617-428-0200
;      TELEFAX:  617-428-7045
;  INFORMATION FOR SEQ ID NO:  8:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  33 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
US-08-908-884-8

  Query Match             4.1%;  Score 121;  DB 8;  Length 33;
  Best Local Similarity   68.8%;  Pred. No. 0.00053;
  Matches   22;  Conservative    5;  Mismatches    5;  Indels    0;  Gaps    0;

Qy     269 KHVRRIHRALDSDDVELVRMLLTEGQTNLDDA 300
           |||  :|:|||||:|||::|| |  ||||||
Db       1 KHVSNVHKALDSDDIELVKLLLKEDHTNLDDA 32


RESULT 15
US-09-908-323-8
; Sequence 8, Application US/09908323
; Patent No. US20020073447A1
;   GENERAL INFORMATION:
;        APPLICANT: Dong et al.
;        TITLE OF INVENTION: ACQUIRED RESISTANCE GENES AND USES THEREOF
;        NUMBER OF SEQUENCES: 28
;        CORRESPONDENCE ADDRESS:
;             ADDRESSEE: Clark & Elbing LLP
;             STREET: 176 Federal Street
;             CITY: Boston
;             STATE: MA
;             COUNTRY: USA
;             ZIP: 02110
;        COMPUTER READABLE FORM:
;             MEDIUM TYPE: Diskette
;             COMPUTER: IBM Compatible
;             OPERATING SYSTEM: DOS
;             SOFTWARE: FastSEQ for Windows Version 2.0
;        CURRENT APPLICATION DATA:
;             APPLICATION NUMBER: US/09/908,323
;             FILING DATE: 17-Jul-2001
;             CLASSIFICATION: <Unknown>
;        PRIOR APPLICATION DATA:
;             APPLICATION NUMBER: 08/908,884
;             FILING DATE: <Unknown>
;             APPLICATION NUMBER: 60/035,166
;             FILING DATE: January 10, 1997
;             APPLICATION NUMBER: 60/046,769
;             FILING DATE: May 16, 1997
;        ATTORNEY/AGENT INFORMATION:
;             NAME: Elbing, Karen L
```

; REGISTRATION NUMBER: 35,238
; REFERENCE/DOCKET NUMBER: 00786/339004
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 617-428-0200
; TELEFAX: 617-428-7045
; INFORMATION FOR SEQ ID NO: 8:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 33 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; SEQUENCE DESCRIPTION: SEQ ID NO: 8:
US-09-908-323-8

Query Match 4.1%; Score 121; DB 10; Length 33;
Best Local Similarity 68.8%; Pred. No. 0.00053;
Matches 22; Conservative 5; Mismatches 5; Indels 0; Gaps 0;

Qy 269 KHVRRIHRALDSDDVELVRMLLTEGQTNLDDA 300
||| :|:|||||:|||::|| | ||||||
Db 1 KHVSNVHKALDSDDIELVKLLLKEDHTNLDDA 32

Search completed: January 3, 2003, 22:54:37
Job time : 18 secs